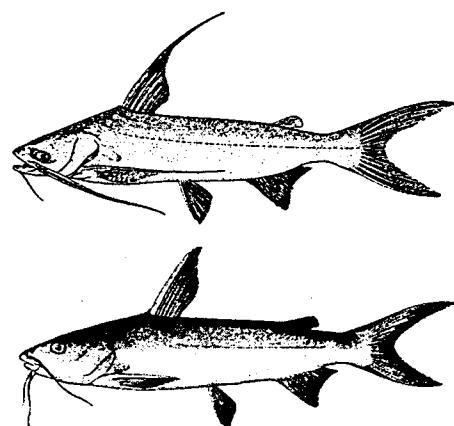


A STOCK ASSESSMENT OF HARDHEAD CATFISH, *ARIUS FELIS*, AND GAFFTOPSAIL
CATFISH, *BAGRE MARINUS*, IN FLORIDA WATERS



Report to the Florida Marine Fisheries Commission
October 22, 1996

Michael P. Armstrong, Michael D. Murphy, Robert G. Muller,
David P. Harshany, and Roy E. Crabtree

Florida Department of Environment Protection
Florida Marine Research Institute
St. Petersburg, FL

IHR 1996-003



Executive Summary

Stocks of hardhead and gafftopsail catfish in Florida appear to be healthy. Exploitation is low and the available data show the populations contain wide ranges of ages, indicative of low mortality. Fishing mortality (F) was estimated at about 0.1 per year for gafftopsail catfish. This level of F is at or below all traditional biological reference points. Fishing mortality for hardhead catfish was not significantly different from zero as a result of high numbers of older fish. The age structure suggests a fishing mortality rate lower than the rate for gafftopsail catfish. The data are not currently available with which to assess the effect of the recent kills on the catfish population.

Combined commercial landings were 160,000-230,000 pounds per year during 1986-1994. Landings dropped to 100,000 pounds in 1995, apparently as a result of the amendment to regulate inshore entangling nets. Gill nets have had the largest landings but hook and line became more important in 1995. Although commercial catfish landings are not reported by species, information from dealers indicates 90% or greater of the landings are gafftopsail catfish. About 65% of the commercial landings come from the Atlantic coast. Standardized catch rates in the commercial fishery have declined in recent years.

Recreational landings are about 250,000-350,000 pounds per year of hardhead catfish and about 300,000-400,000 pounds per year of gafftopsail catfish. Landings and standardized catch rates have shown no trends over the last ten years. Recreational landings on the Gulf coast are generally about double those of the Atlantic coast.

New data on age and growth indicate that both species of marine catfish in Florida are long-lived and slow growing. Maximum ages were 23 years for hardhead catfish and 24 years for gafftopsail catfish. Maturity in both species is not reached until about 5 years of age.

I. BIOLOGICAL CHARACTERISTICS

Data Sources

Sources of information for *Arius felis* and *Bagre marinus* are Merriman (1940), Gunter and Hall (1963), Doermann et al. (1977), Muncy and Wingo (1983), and unpublished DEP/FMRI data. DEP/FMRI data are based upon collections from Tampa Bay FL during 1995-1996.

Morphometrics

Relations between fork length (FL) and weight for both species were fit to linear regression models using log transformed data. The back-transformed equations were as follows:

Arius felis:

Both sexes

$$\text{Weight (g)} = 7.189 \times 10^{-6} (\text{FL in mm})^{3.116} \quad r^2=0.99, n=534$$

Males

$$\text{Weight (g)} = 6.618 \times 10^{-6} (\text{FL in mm})^{3.127} \quad r^2=0.97, n=152$$

Females

$$\text{Weight (g)} = 1.049 \times 10^{-5} (\text{FL in mm})^{3.052} \quad r^2=0.89, n=322$$

Bagre marinus:

Both sexes

$$\text{Weight (g)} = 7.723 \times 10^{-6} (\text{FL in mm})^{3.125} \quad r^2=0.99, n=324$$

Males

$$\text{Weight (g)} = 6.997 \times 10^{-6} (\text{FL in mm})^{3.143} \quad r^2=0.99, n=91$$

Females

$$\text{Weight (g)} = 1.582 \times 10^{-5} (\text{FL in mm})^{3.007} \quad r^2=0.97, n=182$$

Analysis of covariance indicated the regression equations for males and females for both *A. felis* and *B. marinus* were significantly different; females were significantly heavier at length than males.

The linear relation between weight and gutted weight is:

Arius felis:

Combined sexes
 $WT = 1.1130 * GWT - 1.1437$ $r^2=0.99$ n=556

Bagre marinus:

Combined sexes
 $WT = 1.1302 * GWT - 6.0434$ $r^2=0.99$ n=328

where WT = weight (g) and GWT = gutted weight (g). These equations can be used to estimate the total weight of landed fish when only gutted weights are available, as is frequently the case in the commercial fishery.

Stock Distribution

No information exists on *A. felis* and *B. marinus* stock structure. *Arius felis* and *B. marinus* are common in tropical and temperate coastal waters, especially in estuaries and coastal lagoons. *Arius felis* occurs in coastal waters from Cape Cod to Mexico. *Bagre marinus* occurs in coastal waters from Cape Cod to Panama.

Reproduction

Both species of marine catfish found in Florida waters spawn large eggs of at least 14 mm diameter (Merriman 1940). Total potential fecundity ranges from 20 to 62 oocytes (Merriman 1940). There is no published information on batch fecundity or spawning frequency. After spawning, eggs are retained in the male's mouth until hatching. Hatching appears to take place after 42 to 70 days (Jones et al. 1978). Young hatch at 29-45 mm TL and remain in the males mouth for an additional 2-4 weeks (Jones et al. 1978). Although the fecundity of marine catfish is low, survival of newly hatched young is probably high relative to other fishes.

Muncy and Wingo (1983) summarized information regarding the reproduction of *A. felis* and *B. marinus*. *Arius felis* spawns from May through August in shallow back bays. *Bagre marinus* spawns over inshore mudflats from May through August. DEP/FMRI gonadosomatic indices (GSI) for females of both species suggest seasonal spawning. *Arius felis* GSIs peaked sharply in June, and *B. marinus* GSIs peaked in April. This suggests that at least in Tampa Bay, *B. marinus* spawns earlier than *A. felis*.

Muncy and Wingo (1983) reported that female *A. felis* reach sexual maturity at 120-200 mm SL, and males at about 250 mm SL (Merriman 1940). The smallest gravid female *B. marinus* examined by Merriman (1940) was 265 mm SL. Preliminary examination of gonads of catfish from DEP/FMRI collections suggest that female *A. felis*

reach sexual maturity at about 250 mm FL (230 mm SL) and *B. marinus* females reach maturity at about 330 mm FL (310 mm SL).

Growth Patterns

Doermann et al. (1977) used pectoral spines to age 177 *A. felis* collected from Mississippi waters ranging in length from 171-355 mm. They reported ages of 3 to 8 years. Gunter and Hall (1963) reported that young-of-the-year *A. felis* in southwestern Florida waters reached lengths of 133 mm TL and that 1-year-old fish grew to 193 mm TL. No previous data exist on ageing of *B. marinus*.

We aged 563 *A. felis* and 332 *B. marinus* from DEP/FMRI collections. Annuli were counted from sectioned otoliths from catfish collected in Tampa Bay FL. These ages are preliminary and have not been validated. The *A. felis* sample contained 156 males, 347 females, and 60 unsexed individuals. Fork length ranged 111-340 mm FL for males and 223-439 mm FL for females. Ages ranged 0-23 years and maximum ages were 20 years for males and 23 years for females (Figure 1). Based on this growth rate and the preliminary estimates of length at maturity, *A. felis* could reach sexual maturity at age-5. Males appear to be smaller at age than females. The von Bertalanffy growth equation for males and unsexed age-0 and -1 *A. felis* was $FL = 324.8(1-e^{(-0.243(Age+1.462))})$ and for females and unsexed age-0 and -1 *A. felis* was $FL=341.9(1-e^{(-0.241(Age+1.383))})$ (Table 1).

The *B. marinus* sample contained 97 males, 186 females, and 49 unsexed individuals. Fork length ranged 140-495 mm FL for males and 200-577 mm FL for females. Ages ranged 0-24 years and maximum ages were 18 years for males and 24 years for females (Figure 2). Based on this growth rate and the preliminary estimates of length at maturity, *B. marinus* could reach sexual maturity at age-5. Males appear to be smaller at age than females. The von Bertalanffy growth equation for males and unsexed age-0 and -1 *B. marinus* was $FL = 501.4(1-e^{(-0.167(Age+0.981))})$ and for females and unsexed age-0 and -1 *B. marinus* was $FL=556.6(1-e^{(-0.139(Age+0.974))})$ (Table 1).

II. FISHERY CHARACTERISTICS

Commercial Harvest

Commercial landings are not reported separately for hardhead and gafftopsail catfishes. Their combined annual landings in Florida totaled about 108,000 pounds in 1995. This is down from the 1986-1994 average landings of about 186,000 pounds, probably as a result of the ban on the use of entangling gear in state waters beginning in July 1995 (Table 2).

On the Atlantic coast, catfish annual landings increased from 49,000 pounds in 1986 to between 100,000 and 130,000 pounds during 1987-1994 before decreasing to about 71,000 pounds in 1995. Gulf coast annual landings showed a decreasing trend during 1986-1995. Annual landings dropped from an average 93,000 pounds during 1986-1991 to about 60,000 pounds during 1992-1994. Annual landings on the Gulf coast during 1995 were only 37,000 pounds (Table 2).

On the Atlantic coast and in Southwest Florida catfish landings are greatest in the spring and in the Northwest region catfish landings are highest during the spring, summer, and early fall (Table 3).

Reported landings made using gill nets represented about 60-70% of the annual landings on both coast (Table 4). However during 1995, hook-and-line landings exceeded gill-net landings on the Gulf coast. Of the SPL holders who landed catfish, most landed less than 1,000 pounds per year (Table 5). Only 1-3 license-holders landed 10,000 pounds or more catfish each year. The number of license holders reporting catfish landings declined on both coasts during 1995. Catfish landings on the Atlantic coast were reported by 321 to 356 license-holders during 1992-1994. This dropped to only 286 license holders in 1995. On the Gulf coast the number of license-holders reporting catfish dropped from 221-235 during 1992-1994 to 163 license-holders in 1995.

There is a wide variety of other species landed on commercial trips that produce catfish (Table 6). On the Gulf coast, menhaden, striped mullet, sheepshead, bluefish, and mojarras are caught in significant quantities on catfish-landing trips. On the Atlantic coast, species caught in significant quantities with catfish include crevalle jack, menhaden, striped mullet, tilapia, spot, and brown shrimp.

Commercial landings of catfishes on the Atlantic coast are made mainly in counties adjacent to the Indian River Lagoon (Table 7, Figure 3). Volusia, Brevard, Indian River, St Lucie, and Martin counties accounted for 90% of the Atlantic coast landings in 1995. During 1986-1995 the average annual landings in these counties accounted for 92% of the average annual landings on the Atlantic coast during this period. Lee county has traditionally produced more catfish on the Gulf coast than any other county (Table 7, Figure 3). In 1995, Lee county landings represented 25% of the Gulf coast commercial landings. That year Citrus county also produced more than 25% of the Gulf coast landings followed by Charlotte Harbor at 12%. Average annual landings of catfishes during 1986-1995 were greatest in Lee county (27%), followed by Pasco (12%), and Hillsborough (10%) counties.

Relatively few ($n=231$) commercially landed sea catfish were measured during 1986-1995. The average fork length for hardhead catfish landed during this period was 293 mm (11.5") and the average fork length for gafftopsail catfish was 436 mm (17.2") (Figure 4). Most of these samples were collected from the Atlantic coast fishery.

Recreational Harvest

Statewide recreational catfish landings were estimated to be about 285,000 (248,000 lbs.) hardhead and 159,000 (334,000 lbs.) gafftopsail in 1995. There was no significant trend in statewide landings made during 1986-1995 for either species, with an average of 342,000 hardhead and 185,000 gafftopsail catfish harvested by anglers each year (Table 8). About 65% of landings of both species of catfish come from the Gulf coast. On both coasts, recreational landings of hardhead and gafftopsail catfish are generally greatest during March-October with few being landed during November-February (Table 9).

Both hardhead catfish and gafftopsail catfish are consistently landed by anglers fishing throughout Florida except for in the Southeast region (Figure 5). In 1994 and 1995 between 10,000 and 50,000 hardhead catfish were landed along the southern Gulf coast and along the central Atlantic coast of Florida. The MRFSS estimated that no catches of hardhead catfish were made by anglers in the southern Atlantic coast in 1994 and less than about 5,000 hardhead catfish were landed in 1995. Gafftopsail landings by anglers were between 10,000 and 50,000 fish during each of 1994 and 1995 in the Big Bend region of the Gulf coast. Anglers in the southern Gulf coast region in 1994 and in the central Atlantic region in 1995 also had landings of between 10,000 and 50,000 gafftopsail catfish. None or less than 5,000 gafftopsail were reported from the southern Atlantic region and the northwestern Gulf region.

The mean size of hardhead catfish measured from the recreational fishery on the Atlantic coast of Florida was larger than the mean size of fish measured on the Gulf coast (Figure 6). Atlantic hardhead catfish averaged 365 mm (14.4") on the Atlantic coast and 319 mm (12.5") FL on the Gulf coast. Recreationally-caught gafftopsail catfish were also larger on the Atlantic coast. Average fork length was 422 mm (16.6") on the Atlantic coast and 382 mm (15.0") on the Gulf coast (Figure 7).

Bycatch

Hardhead catfish was a major bycatch of shrimp trawlers operating in inland waters such as Tampa Bay and the St Johns River (Coleman et al. 1993; CSA 1992). They are less frequently caught by the shrimp fishery operating in nearshore shelf waters.

Combined Harvest

Since commercial landings of catfishes are not reported by species, the combined commercial and recreational harvest of hardhead or gafftopsail catfish cannot be determined. It appears that most of the commercial landings are gafftopsail because they are marketed for human consumption. Most of the hardhead catfish landed by the commercial fishery is apparently used for bait. Interviews with several fishhouse owners

lead us to believe that about 90% or more of the commercial landings are gafftopsail catfish (Doug Adams, FMRI Melbourne, pers. comm.).

III. ASSESSMENT

Trends in abundance

Catch-per-unit-effort (CPUE) is often used as a relative index of abundance of fishes. These data are available from the Marine Recreational Fishery Statistics Survey (recreational) and the Florida Marine Fisheries Information System (commercial). The recreational index is the mean number of catfish caught per trip by anglers who reported catching at least one catfish or who stated they were targeting catfish. This index is standardized by GLM procedures for year, county, month, number of anglers, and number of hours fished. The commercial index is the mean pounds of catfish landed per trip, standardized for year, county, trip duration in days, and month. Recreational indices were calculated separately for the two species but the commercial indices are for both species combined.

There were significant differences among years in commercial CPUE on both coasts (Atlantic: $F=23.74$, d.f 9, 15183; Gulf: $F=23.97$, d.f 9, 8967). Both coasts exhibit decreasing trends over the period examined, 1986-1995 (Figure 8). The standardized catch rate was about 20 pounds per trip on the Atlantic coast and about 30 pounds per trip on the Gulf coast.

Standardized catch per trip for recreational anglers who caught or targeted hardhead or gafftopsail catfish did not show any trend during 1986-1995 on either the Atlantic and Gulf coasts (Figure 9). Standardized catch was about 2 hardhead per trip for both coasts and about 2 gafftopsail per trip on the Atlantic coast and about 1.5 gafftopsail per trip on the Gulf coast.

Mortality Estimates

The samples of hardhead catfish collected from Tampa Bay contained relatively abundant age groups through age 17. If this sample is representative of the abundance of a cohort at different ages then mortality is extremely low until about age 20. The slow decline in abundance with age in our samples could also have resulted from a long-term increasing trend in mortality or a long-term decreasing trend in recruitment or both. There doesn't appear to be any indication from fisheries landings data that landings have shown a long-term increasing trend. It is more likely that mortality is very low on hardhead catfish. Mortality could not be calculated by the Chapman-Robson method due to inadequate age data for larger fish and total mortality calculated by catch curve analysis was not significantly different from zero.

The samples of gafftopsail catfish from Tampa Bay also contained a large number of older-aged individuals but showed a slightly greater decrease in numbers with age. Total mortality (Z) was estimated using the Chapman-Robson technique to be 0.19 per year for the Atlantic coast and 0.23 per year for the Gulf coast. If we assume natural mortality (M) is 0.1 per year then fishing (F) mortality is 0.09 per year for the Atlantic and 0.13 per year for the Gulf.

An extensive kill of hardhead catfish occurred along Florida's Gulf coast from early October to December, 1995 and again from late May through July, 1996, this time extending to Pensacola and the Atlantic coast. Similar hardhead kills were reported along the Texas coast during the 1995 kill and along the Texas, Louisiana, Mississippi, and Alabama coasts during the 1996 kill. The Aquatic Health Group of DEP/FMRI investigated these kills and determined that the most likely causative agent was a virus. The effect of this kill and other natural kills, such as those caused recently by red tide, on the hardhead catfish population is unknown. To assess the effects we need to examine the age structure, landings, and catch rates for hardhead catfish in 1996. These data were not available at the time of this report but will be available in early 1997. In addition, hard parts are available from a sample of catfish that died during the viral kill. These may provide information on the age structure of the affected fish.

Recruitment

The CPUE of hardhead catfish <150 mm SL in the DEP/FMRI Fisheries Independent Monitoring Project, standardized by GLM methods for effects of gear, area, and month, was used as an index of juvenile abundance. The index declined from 1989 to 1993, but rebounded slightly in 1994 and 1995 (Figure 10). Gafftopsail catfish are not sampled in sufficient quantities by the Fisheries Independent Monitoring Project to create an index.

Equilibrium yield and spawning potential per recruit

Certain aspects of the life history of the hardhead and gafftopsail catfish (e.g. slow growth, low fecundity, mouth brooding, late age of maturity) suggests they may be quite sensitive to overfishing. Traditional biological reference points for yield per recruit analyses for hardhead catfish were $F_{0.1} = 0.12$ per year and $F_{\max} = 0.25$ per year. Spawning potential reference points were $F_{20\%} = 0.54$ per year and $F_{40\%} = 0.35$ per year. The biological reference points for gafftopsail catfish were $F_{0.1} = 0.11$ per year and $F_{\max} = 0.19$ per year and spawning potential reference points were $F_{20\%} = 0.23$ per year and $F_{40\%} = 0.11$ per year. Spawning potential ratio for gafftopsail catfish at the current estimated levels of fishing mortality were 0.46 for the Atlantic and 0.35 for Gulf. The equilibrium yield-per-recruit and spawning potential ratio relationships for both species are presented in Figures 11 and 12.

Present and possible future condition of the stock

The current condition of the hardhead catfish stock in the Tampa Bay area appears to be good based on the observed age structure of samples from the population.. Since the amount of hardhead landed on the Atlantic coast is less than on the Gulf coast and the standardized catch rates by anglers is similar, it is likely that the condition of the hardhead catfish population on the Atlantic coast is also good. There is the potential for a massive increase in landings of hardhead catfish if fishermen begin to land the catch that is now released, but this currently seems a remote possibility. Further information is needed in order to assess the effect of the recent fish kills on the hardhead catfish population.

Gafftopsail populations also appear to be healthy. Estimates of fishing mortality are at or below the biological reference points. Standardized catch rates in the recreational fishery have been stable in the years examined. Exploitation of both sea catfish species is low at this time.

IV. MANAGEMENT

History of management

There are no direct regulations to the harvest of hardhead and gafftopsail catfish, although the ban on entangling gears in Florida waters has certainly restricted the commercial catch.

Research Needs

Catfishes have a unique life history strategy among Florida's marine fishes that includes low fecundity, mouth brooding, late maturation, and a long life span. It is unknown if traditional biological reference points used by managers as indications of overfishing pertain to catfish.

Age structure, landings, and catch rates need to be examined from 1996 in order to assess the effects of the recent catfish kills.

The age-composition of the Atlantic coast population needs to be determined.

Literature Cited

- Doermann, J.E., D. Huddleston, D. Lipsey, and S.H. Thompson. 1977. Age and rate of growth of the sea catfish, *Arius felis*, in Mississippi coastal waters. *J. Tenn. Acad. Sci.* 52(4):148 pp.
- Gunter, G., and G.E. Hall. 1963. Biological investigation of the St. Lucie estuary (Florida) in connection with Lake Okeechobee discharges through the St. Lucie Canal. *Gulf Res. Rep.* 1(5):189-307.
- Jones, P.W., F.D. Martin, and J.D. Hardy, Jr. 1978. Development of fishes in the mid-Atlantic bight. An atlas of egg, larval, and juvenile stages. Ascepenseridae through Ictaluridae. U.S. Fish and Wildl. Ser. Biol. Serv. Program FWS/OBS-78/12. Vol. I:301-307.
- Merriman, D. 1940. Morphological and embryological studies on two species of marine catfish, *Bagre marinus* and *Galeichthys felis*. *Zoologica* 25(13):221-248.
- Muncy, R.J., and W.M. Wingo. 1983. Species profiles: life histories and environmental requirements of coastal fishes and invertebrates (Gulf of Mexico): sea catfish and gafftopsail catfish. FWS/OBS-82/11.5 TR EL-82-4.

List of Tables

Table 1. Parameters of the von Bertalanffy growth model for hardhead and gafftopsail catfish in Tampa Bay.

Table 2. Annual reported commercial landings of sea catfishes in Florida.

Table 3. Florida commercial landings of sea catfish by month with landings categorized into two types: directed (catfish landings were over half the total landings for each trip; or non-directed (catfish landings were less than half the total landings for each trip).

Table 4. Florida commercial landings of sea catfish by gear type.

Table 5. Florida commercial landings of sea catfish showing saltwater product licenses grouped by annual poundage landed.

Table 6. List of important species caught with sea catfish.

Table 7. Florida commercial landings of sea catfish by county.

Table 8. Annual recreational catch and effort estimates for hardhead and gafftopsail catfish in Florida.

Table 9. Florida recreational landings of hardhead and gafftopsail catfish by month.

List of Figures

Figure 1. Length-at-age data for hardhead catfish from Tampa Bay fitted with a von Bertalanffy growth model.

Figure 2. Length-at-age data for gafftopsail catfish from Tampa Bay fitted with a von Bertalanffy growth model.

Figure 3. Geographical distribution of commercially landed sea catfish in Florida for 1994 and 1995.

Figure 4. Length frequencies of commercially landed sea catfish in Florida.

Figure 5. Geographical distribution of recreationally landed hardhead and gafftopsail in Florida for 1994 and 1995.

Figure 6. Length frequencies of recreationally landed hardhead catfish in Florida.

Figure 7. Length frequencies of recreationally landed gafftopsail catfish in Florida.

Figure 8. Standardized commercial catch rate of sea catfish in Florida, 1986-1995.

Figure 9. Standardized recreational catch rate of sea catfish in Florida, 1982-1995: a. hardhead catfish; b. gafftopsail catfish.

Figure 10. Standardized catch rate of juvenile (<150 mm SL) hardhead catfish in Tampa Bay.

Figure 11. Equilibrium yield-per-recruit and spawning potential ratio relationships for female hardhead catfish from the Gulf coast of Florida.

Figure 12. Equilibrium yield-per-recruit and spawning potential ratio relationships for female gafftopsail catfish from the Gulf coast of Florida.

Table 1. Parameter estimates for the von Bertalanffy growth model for *Arius felis* and *Bagre marinus* collected from Tampa Bay FL. Values in parentheses are standard errors.

Arius felis

Sex	n	L_∞ (mm)	K	t_o	r^2
Males and unsexed	213	324.8 (2.35)	0.243 (0.0081)	-1.462 (0.0579)	0.977
Females and unsexed	385	341.9 (1.72)	0.241 (0.0073)	-1.383 (0.0607)	0.958

Bagre marinus

Sex	n	L_∞ (mm)	K	t_o	r^2
Males and unsexed	141	501.4 (21.78)	0.167 (0.0194)	-0.981 (0.1876)	0.887
Females and unsexed	232	556.6 (8.90)	0.139 (0.0073)	-0.974 (0.1348)	0.938

Table 2. Annual reported commercial landings for catfishes in Florida.

Year	Gulf	Atlantic	Statewide
1986	80,740	48,594	129,334
1987	125,889	101,913	227,802
1988	77,039	108,810	185,849
1989	89,123	127,341	216,464
1990	84,419	130,834	215,253
1991	99,826	108,184	208,010
1992	58,137	102,744	160,881
1993	57,059	101,779	158,838
1994	58,254	111,599	169,853
1995	33,709	68,848	102,557

Table 3. Monthly commercial landings for catfishes made on the Atlantic or Gulf coasts during 1986-1995.

DEPARTMENT OF ENVIRONMENTAL PROTECTION
 FLORIDA MARINE RESEARCH INSTITUTE
 MARINE FISHERIES INFORMATION SYSTEM

11:15 Friday, September 27, 1996 1

CATFISH BY MONTH AND COAST

DATA: CATFISH.WORKING

PROGRAM: CATMO SAS

SUB_REG ATLANTIC

YEAR	MONTH	CATEGORY				TOTAL	
		OVER HALF		LESS THAN HALF		CATFISH	
		CATFISH		CATFISH			
		N	SUM	N	SUM	N	SUM
86	JANUARY	7	603	19	456	26	1,059
	FEBRUARY	18	4,561	39	1,484	57	6,045
	MARCH	55	8,761	47	1,095	102	9,856
	APRIL	50	7,004	78	3,201	128	10,205
	MAY	35	1,914	22	729	57	2,643
	JUNE	16	1,417	29	881	45	2,298
	JULY	10	501	45	3,819	55	4,320
	AUGUST	8	422	45	2,143	53	2,565
	SEPTEMBER	6	400	67	1,545	73	1,945
	OCTOBER	13	826	90	1,769	103	2,595
	NOVEMBER	4	412	77	1,307	81	1,719
	DECEMBER	14	2,466	58	878	72	3,344
	ANNUAL	236	29,287	616	19,307	852	48,594
87	MONTH						
	JANUARY	23	2,756	51	1,135	74	3,891
	FEBRUARY	47	11,089	40	951	87	12,040
	MARCH	80	19,693	73	2,983	153	22,676
	APRIL	84	18,948	150	10,540	234	29,488
	MAY	52	6,505	78	3,817	130	10,322
	JUNE	31	4,397	60	1,411	91	5,808
	JULY	7	1,314	46	1,266	53	2,580
	AUGUST	3	390	45	1,304	48	1,694
	SEPTEMBER	6	321	50	871	56	1,192
	OCTOBER	16	1,203	88	1,842	104	3,045
	NOVEMBER	14	601	93	1,747	107	2,348
	DECEMBER	22	4,507	69	2,322	91	6,829
	ANNUAL	385	71,724	843	30,189	1,228	101,913

(CONTINUED)

Table 3. (con't)

DEPARTMENT OF ENVIRONMENTAL PROTECTION
 FLORIDA MARINE RESEARCH INSTITUTE
 MARINE FISHERIES INFORMATION SYSTEM

11:15 Friday, September 27, 1996 2

CATFISH BY MONTH AND COAST

DATA: CATFISH.WORKING

PROGRAM: CATMO SAS

SUB_REG ATLANTIC

YEAR	MONTH	CATEGORY				TOTAL	
		OVER HALF		LESS THAN HALF			
		CATFISH		CATFISH		CATFISH	
		N	SUM	N	SUM	N	SUM
88	JANUARY	43	12,287	57	2,780	100	15,067
	FEBRUARY	49	18,267	101	5,156	150	23,423
	MARCH	86	19,960	92	4,028	178	23,988
	APRIL	47	8,643	122	5,112	169	13,755
	MAY	8	2,427	58	2,712	66	5,139
	JUNE	21	6,169	77	1,982	98	8,151
	JULY	13	511	74	1,827	87	2,338
	AUGUST	10	970	102	2,978	112	3,948
	SEPTEMBER	12	730	74	1,276	86	2,006
	OCTOBER	8	394	92	1,607	100	2,001
	NOVEMBER	11	737	116	2,204	127	2,941
	DECEMBER	21	4,638	56	1,415	77	6,053
	ANNUAL	329	75,733	1,021	33,077	1,350	108,810
89	MONTH						
	JANUARY	32	3,023	92	3,636	124	6,659
	FEBRUARY	69	13,864	80	3,202	149	17,066
	MARCH	102	18,851	138	6,006	240	24,857
	APRIL	65	8,623	162	8,057	227	16,680
	MAY	38	5,582	71	3,439	109	9,021
	JUNE	24	1,348	57	1,801	81	3,149
	JULY	22	1,480	89	3,078	111	4,558
	AUGUST	33	4,018	108	3,193	141	7,211
	SEPTEMBER	43	5,100	118	3,919	161	9,019
	OCTOBER	19	2,231	101	2,661	120	4,892
	NOVEMBER	11	974	90	2,240	101	3,214
	DECEMBER	28	18,713	51	2,302	79	21,015
	ANNUAL	486	83,807	1,157	43,534	1,643	127,341

(CONTINUED)

Table 3. (con't)

DEPARTMENT OF ENVIRONMENTAL PROTECTION
 FLORIDA MARINE RESEARCH INSTITUTE
 MARINE FISHERIES INFORMATION SYSTEM

11:15 Friday, September 27, 1996 3

CATFISH BY MONTH AND COAST

DATA: CATFISH.WORKING

PROGRAM: CATMO SAS

SUB_REG ATLANTIC

YEAR	MONTH	CATEGORY				TOTAL	
		OVER HALF		LESS THAN HALF			
		CATFISH		CATFISH		CATFISH	
		N	SUM	N	SUM	N	SUM
90	JANUARY	24	4,189	50	2,045	74	6,234
	FEBRUARY	27	4,551	124	5,096	151	9,647
	MARCH	121	27,684	227	9,268	348	36,952
	APRIL	74	10,799	161	5,208	235	16,007
	MAY	48	3,955	134	4,356	182	8,311
	JUNE	39	5,252	85	2,801	124	8,053
	JULY	35	5,268	111	3,238	146	8,506
	AUGUST	42	7,007	112	3,131	154	10,138
	SEPTEMBER	42	5,530	103	2,600	145	8,130
	OCTOBER	40	5,034	110	2,914	150	7,948
	NOVEMBER	15	1,182	87	1,867	102	3,049
	DECEMBER	10	6,445	63	1,414	73	7,859
	ANNUAL	517	86,896	1,367	43,938	1,884	130,834
91	MONTH						
	JANUARY	37	4,261	104	4,248	141	8,509
	FEBRUARY	76	12,508	205	6,711	281	19,219
	MARCH	111	16,513	214	6,632	325	23,145
	APRIL	101	13,431	210	8,467	311	21,898
	MAY	20	2,769	101	2,195	121	4,964
	JUNE	33	2,583	85	1,861	118	4,444
	JULY	31	5,495	99	2,334	130	7,829
	AUGUST	21	2,316	107	2,272	128	4,588
	SEPTEMBER	21	1,921	104	2,164	125	4,085
	OCTOBER	15	1,177	127	2,526	142	3,703
	NOVEMBER	16	1,346	101	1,769	117	3,115
	DECEMBER	17	1,017	113	1,668	130	2,685
	ANNUAL	499	65,337	1,570	42,847	2,069	108,184

(CONTINUED)

Table 3. (con't)

DEPARTMENT OF ENVIRONMENTAL PROTECTION
 FLORIDA MARINE RESEARCH INSTITUTE
 MARINE FISHERIES INFORMATION SYSTEM

11:15 Friday, September 27, 1996 4

CATFISH BY MONTH AND COAST

DATA: CATFISH.WORKING

PROGRAM: CATMO SAS

SUB_REG ATLANTIC

YEAR	MONTH	CATEGORY				TOTAL	
		OVER HALF		LESS THAN HALF			
		CATFISH		CATFISH		CATFISH	
		N	SUM	N	SUM	N	SUM
92	JANUARY	24	10,962	104	3,818	128	14,780
	FEBRUARY	43	9,475	120	5,664	163	15,139
	MARCH	67	13,097	179	6,050	246	19,147
	APRIL	56	6,539	182	6,270	238	12,809
	MAY	37	4,106	172	4,767	209	8,873
	JUNE	15	1,165	136	2,852	151	4,017
	JULY	6	200	136	2,229	142	2,429
	AUGUST	8	1,401	132	4,314	140	5,715
	SEPTEMBER	16	1,400	138	3,501	154	4,901
	OCTOBER	18	1,715	245	4,278	263	5,993
	NOVEMBER	8	1,290	188	2,926	196	4,216
	DECEMBER	15	2,411	122	2,314	137	4,725
93	ANNUAL	313	53,761	1,854	48,983	2,167	102,744
	MONTH						
	JANUARY	37	4,570	147	4,728	184	9,298
	FEBRUARY	39	7,012	132	2,922	171	9,934
	MARCH	92	24,336	166	5,204	258	29,540
	APRIL	48	10,179	197	7,627	245	17,806
	MAY	24	4,425	147	3,184	171	7,609
	JUNE	15	3,338	72	1,541	87	4,879
	JULY	15	1,567	94	2,201	109	3,768
	AUGUST	19	1,277	59	1,377	78	2,654
	SEPTEMBER	12	1,169	83	1,834	95	3,003
	OCTOBER	16	1,768	106	2,782	122	4,550
	NOVEMBER	20	1,797	168	3,913	188	5,710
	DECEMBER	7	793	93	2,235	100	3,028
	ANNUAL	344	62,231	1,464	39,548	1,808	101,779

(CONTINUED)

Table 3. (con't)

DEPARTMENT OF ENVIRONMENTAL PROTECTION
 FLORIDA MARINE RESEARCH INSTITUTE
 MARINE FISHERIES INFORMATION SYSTEM

11:15 Friday, September 27, 1996 5

CATFISH BY MONTH AND COAST

DATA: CATFISH.WORKING

PROGRAM: CATMO SAS

SUB_REG ATLANTIC

YEAR	MONTH	CATEGORY				TOTAL	
		OVER HALF		LESS THAN HALF			
		CATFISH		CATFISH			
		N	SUM	N	SUM		
94	JANUARY	30	7,964	86	1,912	116	9,876
	FEBRUARY	61	8,547	102	4,262	163	12,809
	MARCH	70	10,410	185	5,562	255	15,972
	APRIL	66	8,694	249	7,888	315	16,582
	MAY	60	8,734	174	4,537	234	13,271
	JUNE	75	9,374	163	4,466	238	13,840
	JULY	40	4,914	159	3,414	199	8,328
	AUGUST	24	2,680	77	2,050	101	4,730
	SEPTEMBER	13	1,357	89	1,921	102	3,278
	OCTOBER	21	2,291	117	1,528	138	3,819
	NOVEMBER	27	1,947	126	1,700	153	3,647
	DECEMBER	27	2,175	147	3,272	174	5,447
	ANNUAL	514	69,087	1,674	42,512	2,188	111,599
95	MONTH						
	JANUARY	31	5,601	116	3,844	147	9,445
	FEBRUARY	43	8,282	80	2,386	123	10,668
	MARCH	85	8,159	178	4,796	263	12,955
	APRIL	77	9,602	138	3,537	215	13,139
	MAY	34	4,584	117	4,395	151	8,979
	JUNE	25	2,113	48	864	73	2,977
	JULY	17	892	25	351	42	1,243
	AUGUST	8	525	47	1,377	55	1,902
	SEPTEMBER	6	716	47	747	53	1,463
	OCTOBER	14	2,644	17	612	31	3,256
	NOVEMBER	3	414	52	2,407	55	2,821
	ANNUAL	343	43,532	865	25,316	1,208	68,848

Table 3. (con't)

DEPARTMENT OF ENVIRONMENTAL PROTECTION
 FLORIDA MARINE RESEARCH INSTITUTE
 MARINE FISHERIES INFORMATION SYSTEM

11:15 Friday, September 27, 1996 6

CATFISH BY MONTH AND COAST

DATA: CATFISH.WORKING

PROGRAM: CATMO SAS

SUB_REG GULF

YEAR	MONTH	CATEGORY				TOTAL	
		OVER HALF		LESS THAN HALF			
		CATFISH		CATFISH		CATFISH	
		N	SUM	N	SUM	N	SUM
86	JANUARY	8	3,097	30	1,313	38	4,410
	FEBRUARY	14	1,510	26	1,204	40	2,714
	MARCH	11	1,038	39	1,257	50	2,295
	APRIL	17	18,477	56	2,340	73	20,817
	MAY	9	545	81	3,135	90	3,680
	JUNE	22	3,484	51	1,953	73	5,437
	JULY	18	3,054	37	5,626	55	8,680
	AUGUST	33	6,058	44	4,304	77	10,362
	SEPTEMBER	20	3,242	63	2,842	83	6,084
	OCTOBER	27	4,488	70	3,807	97	8,295
	NOVEMBER	17	2,466	47	2,157	64	4,623
	DECEMBER	15	2,385	19	958	34	3,343
87	ANNUAL	211	49,844	563	30,896	774	80,740
	MONTH						
	JANUARY	18	2,165	36	2,564	54	4,729
	FEBRUARY	28	3,300	34	1,405	62	4,705
	MARCH	17	36,789	60	12,694	77	49,483
	APRIL	14	1,653	68	2,033	82	3,686
	MAY	14	1,007	63	2,168	77	3,175
	JUNE	31	3,642	95	14,096	126	17,738
	JULY	34	4,386	157	13,604	191	17,990
	AUGUST	14	1,115	103	5,439	117	6,554
	SEPTEMBER	27	4,114	80	2,137	107	6,251
	OCTOBER	15	1,853	70	2,425	85	4,278
	NOVEMBER	11	1,150	52	2,878	63	4,028
	DECEMBER	12	1,996	29	1,276	41	3,272
	ANNUAL	235	63,170	847	62,719	1,082	125,889

(CONTINUED)

Table 3. (con't)

DEPARTMENT OF ENVIRONMENTAL PROTECTION
 FLORIDA MARINE RESEARCH INSTITUTE
 MARINE FISHERIES INFORMATION SYSTEM

11:15 Friday, September 27, 1996 7

CATFISH BY MONTH AND COAST

DATA: CATFISH.WORKING

PROGRAM: CATMO SAS

SUB_REG GULF

YEAR	MONTH	CATEGORY				TOTAL	
		OVER HALF		LESS THAN HALF			
		CATFISH		CATFISH		CATFISH	
		N	SUM	N	SUM	N	SUM
88	JANUARY	12	1,123	20	887	32	2,010
	FEBRUARY	16	2,518	33	1,177	49	3,695
	MARCH	8	5,206	31	2,516	39	7,722
	APRIL	10	7,802	61	3,254	71	11,056
	MAY	17	3,207	95	5,902	112	9,109
	JUNE	18	1,950	101	4,096	119	6,046
	JULY	14	1,993	90	3,824	104	5,817
	AUGUST	20	5,309	78	8,873	98	14,182
	SEPTEMBER	14	2,618	53	1,596	67	4,214
	OCTOBER	14	2,340	64	1,951	78	4,291
	NOVEMBER	15	3,030	50	2,688	65	5,718
	DECEMBER	4	1,270	30	1,909	34	3,179
	ANNUAL	162	38,366	706	38,673	868	77,039
89	MONTH						
	JANUARY	2	87	25	1,091	27	1,178
	FEBRUARY	11	7,563	18	1,430	29	8,993
	MARCH	26	18,453	20	2,204	46	20,657
	APRIL	10	4,397	41	3,401	51	7,798
	MAY	12	2,027	67	4,890	79	6,917
	JUNE	18	2,907	79	5,592	97	8,499
	JULY	25	14,297	66	2,501	91	16,798
	AUGUST	16	3,028	79	2,644	95	5,672
	SEPTEMBER	11	1,438	101	3,332	112	4,770
	OCTOBER	10	1,002	73	1,326	83	2,328
	NOVEMBER	8	1,165	36	2,591	44	3,756
	DECEMBER	2	437	18	1,320	20	1,757
	ANNUAL	151	56,801	623	32,322	774	89,123

(CONTINUED)

Table 3. (con't)

DEPARTMENT OF ENVIRONMENTAL PROTECTION
 FLORIDA MARINE RESEARCH INSTITUTE
 MARINE FISHERIES INFORMATION SYSTEM

11:15 Friday, September 27, 1996 8

CATFISH BY MONTH AND COAST

DATA: CATFISH.WORKING

PROGRAM: CATMO SAS

SUB_REG GULF

YEAR	MONTH	CATEGORY				TOTAL	
		OVER HALF		LESS THAN HALF			
		CATFISH		CATFISH		CATFISH	
		N	SUM	N	SUM	N	SUM
90	JANUARY	12	3,115	19	1,577	31	4,692
	FEBRUARY	11	7,519	33	1,609	44	9,128
	MARCH	15	2,722	56	4,704	71	7,426
	APRIL	20	4,986	103	5,458	123	10,444
	MAY	13	1,046	132	4,575	145	5,621
	JUNE	22	3,212	84	4,292	106	7,504
	JULY	28	6,651	157	10,406	185	17,057
	AUGUST	13	1,088	186	6,363	199	7,451
	SEPTEMBER	7	4,089	84	1,987	91	6,076
	OCTOBER	13	1,309	66	2,042	79	3,351
	NOVEMBER	20	4,074	32	1,212	52	5,286
	DECEMBER	4	330	9	53	13	383
	ANNUAL	178	40,141	961	44,278	1,139	84,419
91	MONTH						
	JANUARY	6	614	9	309	15	923
	FEBRUARY	8	5,658	27	1,667	35	7,325
	MARCH	12	5,193	64	2,612	76	7,805
	APRIL	34	7,954	133	7,328	167	15,282
	MAY	55	12,079	183	6,954	238	19,033
	JUNE	25	4,114	159	8,240	184	12,354
	JULY	18	3,126	150	8,074	168	11,200
	AUGUST	20	2,131	142	6,124	162	8,255
	SEPTEMBER	25	4,159	161	5,208	186	9,367
	OCTOBER	13	1,465	79	3,138	92	4,603
	NOVEMBER	6	1,066	17	806	23	1,872
	DECEMBER	4	1,188	7	619	11	1,807
	ANNUAL	226	48,747	1,131	51,079	1,357	99,826

(CONTINUED)

Table 3. (con't)

DEPARTMENT OF ENVIRONMENTAL PROTECTION
 FLORIDA MARINE RESEARCH INSTITUTE
 MARINE FISHERIES INFORMATION SYSTEM

11:15 Friday, September 27, 1996 9

CATFISH BY MONTH AND COAST

DATA: CATFISH.WORKING

PROGRAM: CATMO SAS

SUB_REG GULF

YEAR	MONTH	CATEGORY				TOTAL	
		OVER HALF		LESS THAN HALF			
		CATFISH		CATFISH		CATFISH	
		N	SUM	N	SUM	N	SUM
92	JANUARY	10	9,572	25	2,924	35	12,496
	FEBRUARY	9	1,343	22	1,552	31	2,895
	MARCH	15	2,815	62	3,044	77	5,859
	APRIL	14	3,025	63	1,970	77	4,995
	MAY	20	3,219	93	4,391	113	7,610
	JUNE	13	1,281	58	3,483	71	4,764
	JULY	5	2,406	64	2,954	69	5,360
	AUGUST	16	2,015	100	5,405	116	7,420
	SEPTEMBER	4	545	66	1,507	70	2,052
	OCTOBER	3	316	63	2,220	66	2,536
	NOVEMBER	1	100	12	696	13	796
	DECEMBER	4	1,046	16	308	20	1,354
	ANNUAL	114	27,683	644	30,454	758	58,137
93	MONTH						
	JANUARY	1	205	11	1,151	12	1,356
	FEBRUARY	8	3,031	26	557	34	3,588
	MARCH	6	1,856	37	1,452	43	3,308
	APRIL	6	742	30	887	36	1,629
	MAY	7	1,594	57	1,536	64	3,130
	JUNE	9	2,498	69	2,359	78	4,857
	JULY	7	2,404	103	5,811	110	8,215
	AUGUST	17	4,566	79	2,112	96	6,678
	SEPTEMBER	25	15,645	126	2,594	151	18,239
	OCTOBER	9	1,033	74	2,089	83	3,122
	NOVEMBER	6	2,399	21	346	27	2,745
	DECEMBER	1	57	7	135	8	192
	ANNUAL	102	36,030	640	21,029	742	57,059

(CONTINUED)

Table 3. (con't)

DEPARTMENT OF ENVIRONMENTAL PROTECTION
 FLORIDA MARINE RESEARCH INSTITUTE
 MARINE FISHERIES INFORMATION SYSTEM

11:15 Friday, September 27, 1996 10

CATFISH BY MONTH AND COAST

DATA: CATFISH.WORKING

PROGRAM: CATMO SAS

SUB_REG GULF

YEAR	MONTH	CATEGORY				TOTAL	
		OVER HALF		LESS THAN HALF		CATFISH	
		CATFISH		CATFISH		CATFISH	
		N	SUM	N	SUM	N	SUM
94	JANUARY	1	66	12	179	13	245
	FEBRUARY	3	224	36	1,180	39	1,404
	MARCH	23	3,887	66	2,218	89	6,105
	APRIL	25	2,622	80	3,173	105	5,795
	MAY	23	3,096	83	3,073	106	6,169
	JUNE	12	561	90	5,430	102	5,991
	JULY	27	7,876	129	3,475	156	11,351
	AUGUST	42	5,551	107	2,572	149	8,123
	SEPTEMBER	16	1,153	97	2,491	113	3,644
	OCTOBER	13	1,741	54	1,629	67	3,370
	NOVEMBER	13	4,053	43	912	56	4,965
	DECEMBER	6	761	17	322	23	1,083
95	ANNUAL	204	31,591	814	26,654	1,018	58,245
	MONTH						
	JANUARY	6	1,056	10	472	16	1,528
	FEBRUARY	9	1,740	21	1,577	30	3,317
	MARCH	13	1,964	34	1,405	47	3,369
	APRIL	7	438	69	1,533	76	1,971
	MAY	1	193	86	2,235	87	2,428
	JUNE	12	1,299	56	1,280	68	2,579
	JULY	9	1,468	51	876	60	2,344
	AUGUST	10	3,874	51	1,095	61	4,969
	SEPTEMBER	19	2,991	51	1,132	70	4,123
	OCTOBER	15	1,709	44	2,083	59	3,792
	NOVEMBER	9	1,042	60	2,247	69	3,289
	ANNUAL	110	17,774	533	15,935	643	33,709

Table 3. (con't)

DEPARTMENT OF ENVIRONMENTAL PROTECTION
 FLORIDA MARINE RESEARCH INSTITUTE
 MARINE FISHERIES INFORMATION SYSTEM

11:15 Friday, September 27, 1996 11

CATFISH BY MONTH AND COAST

DATA: CATFISH.WORKING

PROGRAM: CATMO SAS

SUB_REG INLAND/OUT OF STATE

YEAR	MONTH	CATEGORY		TOTAL	
		LESS THAN HALF		CATFISH	
		N	SUM	N	SUM
89	JANUARY	1	2	1	2
	ANNUAL	1	2	1	2
94	MONTH				
	MARCH	1	45	1	45
	MAY	2	28	2	28
	ANNUAL	3	73	3	73
95	MONTH				
	OCTOBER	3	17	3	17
	ANNUAL	3	17	3	17

f G:\DATA\SPECIES\CAT.FISH\CATMO.LST

Table 4. The number of commercial fishing trips and landings reported for catfishes by year and by gear for the Gulf and Atlantic coasts of Florida and for inland counties/out-of-state during 1992-1995.

DEPARTMENT OF ENVIRONMENTAL PROTECTION
FLORIDA MARINE RESEARCH INSTITUTE

09:09 Wednesday, September 25, 1996 1

CATFISH LANDINGS BY COAST AND GEAR

PROGRAM: CATG SAS EDITED BATCHES

1 -427

YEAR	GEAR USED	COAST					
		ATLANTIC		GULF		INLAND/OUT OF STATE	
		TRIPS	CATFISH	TRIPS	CATFISH	TRIPS	CATFISH
92	UNKNOWN	348	20,879	147	9,742	.	.
	TRAWL	6	34	27	759	.	.
	GILL NET	1,123	61,964	462	39,962	.	.
	TRAMMEL	564	17,028	49	1,165	.	.
	GIG/SPEAR	-	-	1	15	.	.
	HOOK AND LINE	92	2,245	37	1,330	.	.
	OTHER	34	594	35	5,164	.	.
93	TOTAL	2,167	102,744	758	58,137	.	.
	UNKNOWN	116	8,262	28	1,137	.	.
	TRAWL	1	2	45	1,092	.	.
	GILL NET	1,108	64,755	587	36,664	.	.
	TRAMMEL	349	17,402	19	588	.	.
	GIG/SPEAR	1	3	-	-	.	.
	HOOK AND LINE	99	7,412	28	10,459	.	.
94	OTHER	134	3,943	35	7,119	.	.
	TOTAL	1,808	101,779	742	57,059	.	.
	UNKNOWN	36	2,566	15	336	.	.
	TRAWL	5	43	122	3,517	.	.
	GILL NET	1,450	74,089	650	40,968	3	73
	TRAMMEL	288	11,152	125	2,324	.	.
	HOOK AND LINE	139	5,257	38	2,806	.	.
95	OTHER	270	18,492	68	8,294	.	.
	TOTAL	2,188	111,599	1,018	58,245	3	73
	UNKNOWN	7	379	4	18	1	3
	TRAWL	10	196	171	7,584	.	.
	GILL NET	766	47,495	165	10,302	.	.
(CONTINUED)	TRAMMEL	53	3,921	71	1,547	.	.

Table 4. (con't).

DEPARTMENT OF ENVIRONMENTAL PROTECTION
FLORIDA MARINE RESEARCH INSTITUTE

09:09 Wednesday, September 25, 1996 2

CATFISH LANDINGS BY COAST AND GEAR

PROGRAM: CATG SAS EDITED BATCHES 1 -427

YEAR	GEAR USED	COAST					
		ATLANTIC		GULF		INLAND/OUT OF STATE	
		TRIPS	CATFISH	TRIPS	CATFISH	TRIPS	CATFISH
95	GIG/SPEAR	2	116	.	.	.	.
	HOOK AND LINE	281	11,046	156	12,133	.	.
	OTHER	175	7,349	94	5,563	2	14
	TOTAL	1,294	70,502	661	37,147	3	17

from G:\DATA\SPECIES\CATFISH\CATG.LST

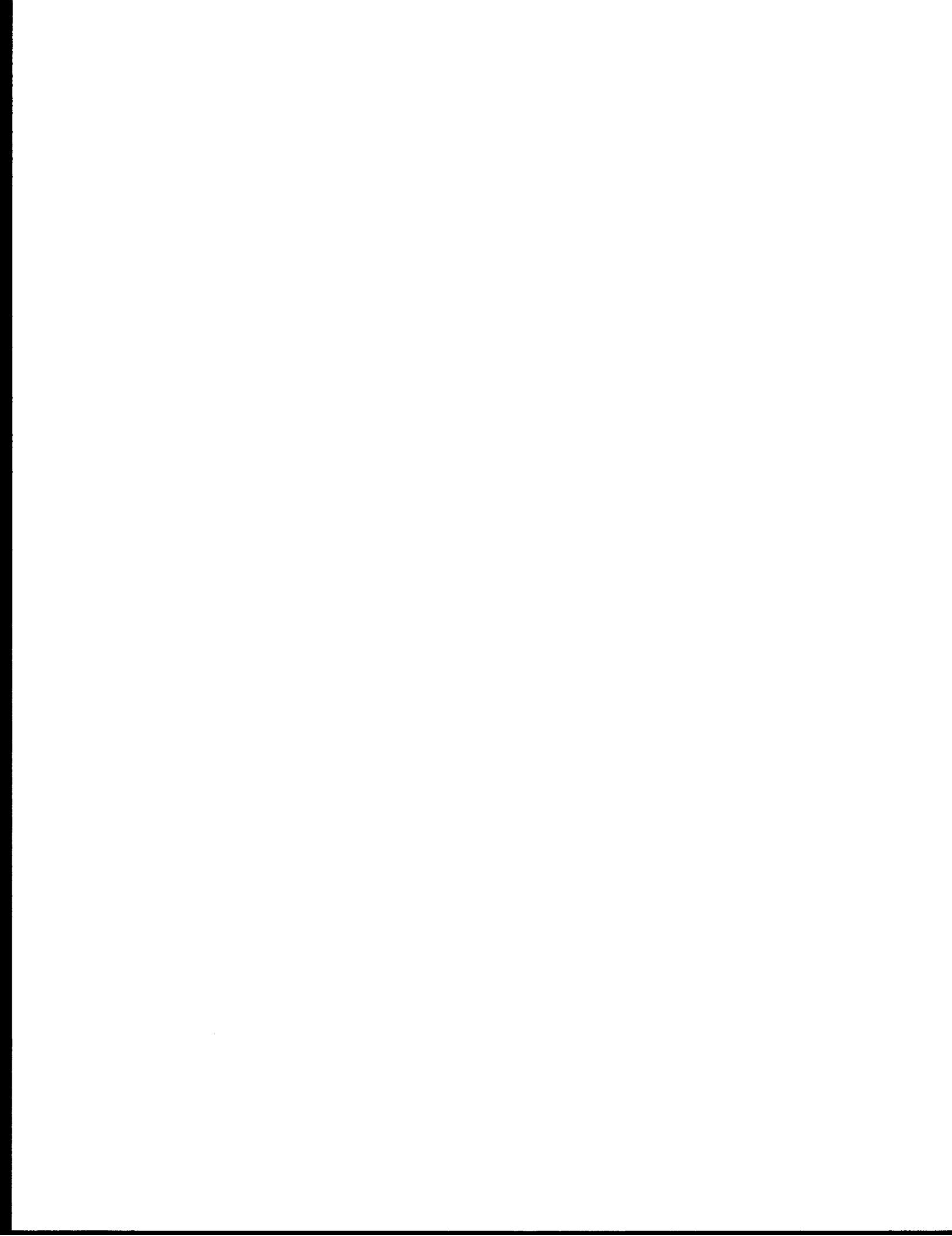


Table 5. Number of licensees, trips and the portion of annual landings reported on the Atlantic and Gulf coasts of Florida and in inland/out-of-state waters during 1986-1995 by four landings per trip levels.

DEPARTMENT OF ENVIRONMENTAL PROTECTION
FLORIDA MARINE RESEARCH INSTITUTE
MARINE FISHERIES INFORMATION SYSTEM

09:35 Wednesday, September 25, 1996 1

CATFISH SPL LICENSES AND ANNUAL PRODUCTION SUMMARY

PROGRAM: CATSPL SAS DATA: EDITED BATCHES 1 - 427

YEAR	POUND CATEGORY	COAST							
		ATLANTIC			GULF			INLAND/OUT OF STATE	
		NUMBER OF LICENSES	TRIPS	POUNDS	NUMBER OF LICENSES	TRIPS	POUNDS	NUMBER OF LICENSES	TRIPS
86	LESS THAN 100 LBS	25	51	986	12	16	550	.	.
	100 - 999 LBS	7	71	2,261	18	61	5,398	.	.
	1000 - 4,999 LBS	1	1	1,369	.	.	.	.	.
	10,000 LBS OR MORE	1	730	43,978	1	698	74,792	.	.
	TOTAL	34	853	48,594	31	775	80,740	.	.
87	POUND CATEGORY								
	LESS THAN 100 LBS	99	164	3,517	78	171	2,337	.	.
	100 - 999 LBS	76	510	27,413	61	456	22,204	.	.
	1000 - 4,999 LBS	30	476	60,225	20	356	34,774	.	.
	5,000 - 9,999 LBS	2	78	10,758	1	72	5,265	.	.
	10,000 LBS OR MORE	.	.	.	3	27	61,309	.	.
	TOTAL	207	1,228	101,913	163	1,082	125,889	.	.
88	POUND CATEGORY								
	LESS THAN 100 LBS	110	197	3,679	104	168	3,156	.	.
	100 - 999 LBS	89	708	32,606	66	354	23,298	.	.
	1000 - 4,999 LBS	25	376	47,111	16	295	32,770	.	.
	5,000 - 9,999 LBS	3	69	25,414	1	3	6,713	.	.
	10,000 LBS OR MORE	.	.	.	1	48	11,102	.	.
	TOTAL	227	1,350	108,810	188	868	77,039	.	.

(CONTINUED)



Table 5. (con't).

DEPARTMENT OF ENVIRONMENTAL PROTECTION
 FLORIDA MARINE RESEARCH INSTITUTE
 MARINE FISHERIES INFORMATION SYSTEM

09:35 Wednesday, September 25, 1996 2

CATFISH SPL LICENSES AND ANNUAL PRODUCTION SUMMARY
 PROGRAM: CATSPL SAS DATA: EDITED BATCHES 1 - 427

YEAR	POUND CATEGORY	COAST							
		ATLANTIC			GULF			INLAND/OUT OF STATE	
		NUMBER OF LICENSES	TRIPS	POUNDS	NUMBER OF LICENSES	TRIPS	POUNDS	NUMBER OF LICENSES	TRIPS
89	LESS THAN 100 LBS	147	279	4,477	118	204	3,441	1	1
	100 - 999 LBS	94	652	31,092	80	348	26,917	.	.
	1000 - 4,999 LBS	27	565	51,301	15	200	27,794	.	.
	5,000 - 9,999 LBS	2	112	11,660	2	11	13,765	.	.
	10,000 LBS OR MORE	2	35	28,811	1	11	17,206	.	.
	TOTAL	272	1,643	127,341	216	774	89,123	1	1
90	LESS THAN 100 LBS	164	306	4,690	110	225	3,322	.	.
	100 - 999 LBS	110	712	37,957	79	583	27,129	.	.
	1000 - 4,999 LBS	36	818	77,185	19	301	43,147	.	.
	5,000 - 9,999 LBS	2	48	11,002	2	30	10,821	.	.
	TOTAL	312	1,884	130,834	210	1,139	84,419	.	.
91	LESS THAN 100 LBS	146	331	4,429	131	248	3,823	.	.
	100 - 999 LBS	129	1,145	41,563	80	519	25,399	.	.
	1000 - 4,999 LBS	33	593	62,192	19	508	39,996	.	.
	5,000 - 9,999 LBS	.	.	.	2	39	18,800	.	.
	10,000 LBS OR MORE	.	.	.	1	43	11,808	.	.
	TOTAL	308	2,069	108,184	233	1,357	99,826	.	.

(CONTINUED)

Table 5. (con't).

DEPARTMENT OF ENVIRONMENTAL PROTECTION
FLORIDA MARINE RESEARCH INSTITUTE
MARINE FISHERIES INFORMATION SYSTEM

09:35 Wednesday, September 25, 1996 3

CATFISH SPL LICENSES AND ANNUAL PRODUCTION SUMMARY
PROGRAM: CATSPL SAS DATA: EDITED BATCHES 1 - 427

YEAR	POUND CATEGORY	COAST							
		ATLANTIC			GULF			INLAND/OUT OF STATE	
		NUMBER OF LICENSES	TRIPS	POUNDS	NUMBER OF LICENSES	TRIPS	POUNDS	NUMBER OF LICENSES	TRIPS
92	LESS THAN 100 LBS	194	433	5,532	136	242	4,098	.	.
	100 - 999 LBS	137	1,262	49,615	85	395	28,565	.	.
	1000 - 4,999 LBS	29	472	47,597	14	121	25,474	.	.
	TOTAL	360	2,167	102,744	235	758	58,137	.	.
93	POUND CATEGORY								
	LESS THAN 100 LBS	165	341	5,109	134	281	4,197	.	.
	100 - 999 LBS	135	1,047	45,924	76	405	20,664	.	.
	1000 - 4,999 LBS	19	394	34,627	9	46	19,963	.	.
	5,000 - 9,999 LBS	1	7	5,096	2	10	12,235	.	.
	10,000 LBS OR MORE	1	19	11,023	.	.	.	.	.
	TOTAL	321	1,808	101,779	221	742	57,059	.	.
94	POUND CATEGORY								
	LESS THAN 100 LBS	197	457	5,692	132	271	4,419	2	3
	100 - 999 LBS	135	1,063	49,738	84	585	26,305	.	.
	1000 - 4,999 LBS	23	559	41,342	10	150	16,430	.	.
	10,000 LBS OR MORE	1	109	14,827	1	12	11,091	.	.
	TOTAL	356	2,188	111,599	227	1,018	58,245	2	3
95	POUND CATEGORY								
	LESS THAN 100 LBS	178	332	5,676	105	209	2,729	1	3
									17

(CONTINUED)

Table 5. Number of licensees, trips and the portion of annual landings reported on the Atlantic and Gulf coasts of Florida and in inland/out-of-state waters during 1986-1995 by four landings per trip levels.

DEPARTMENT OF ENVIRONMENTAL PROTECTION
FLORIDA MARINE RESEARCH INSTITUTE
MARINE FISHERIES INFORMATION SYSTEM

09:35 Wednesday, September 25, 1996 1

CATFISH SPL LICENSES AND ANNUAL PRODUCTION SUMMARY
PROGRAM: CATSPL SAS DATA: EDITED BATCHES 1 - 427

YEAR	POUND CATEGORY	COAST							
		ATLANTIC			GULF			INLAND/OUT OF STATE	
		NUMBER OF LICENSES	TRIPS	POUNDS	NUMBER OF LICENSES	TRIPS	POUNDS	NUMBER OF LICENSES	TRIPS
86	LESS THAN 100 LBS	25	51	986	12	16	550	.	.
	100 - 999 LBS	7	71	2,261	18	61	5,398	.	.
	1000 - 4,999 LBS	1	1	1,369	.	.	.	.	.
	10,000 LBS OR MORE	1	730	43,978	1	698	74,792	.	.
	TOTAL	34	853	48,594	31	775	80,740	.	.
87	POUND CATEGORY								
	LESS THAN 100 LBS	99	164	3,517	78	171	2,337	.	.
	100 - 999 LBS	76	510	27,413	61	456	22,204	.	.
	1000 - 4,999 LBS	30	476	60,225	20	356	34,774	.	.
	5,000 - 9,999 LBS	2	78	10,758	1	72	5,265	.	.
	10,000 LBS OR MORE	.	.	.	3	27	61,309	.	.
	TOTAL	207	1,228	101,913	163	1,082	125,889	.	.
88	POUND CATEGORY								
	LESS THAN 100 LBS	110	197	3,679	104	168	3,156	.	.
	100 - 999 LBS	89	708	32,606	66	354	23,298	.	.
	1000 - 4,999 LBS	25	376	47,111	16	295	32,770	.	.
	5,000 - 9,999 LBS	3	69	25,414	1	3	6,713	.	.
	10,000 LBS OR MORE	.	.	.	1	48	11,102	.	.
	TOTAL	227	1,350	108,810	188	868	77,039	.	.

(CONTINUED)

Table 5. (con't).

DEPARTMENT OF ENVIRONMENTAL PROTECTION
 FLORIDA MARINE RESEARCH INSTITUTE
 MARINE FISHERIES INFORMATION SYSTEM

09:35 Wednesday, September 25, 1996 2

CATFISH SPL LICENSES AND ANNUAL PRODUCTION SUMMARY
 PROGRAM: CATSPL SAS DATA: EDITED BATCHES 1 - 427

YEAR	POUND CATEGORY	COAST								
		ATLANTIC			GULF			INLAND/OUT OF STATE		
		NUMBER OF LICENSES	TRIPS	POUNDS	NUMBER OF LICENSES	TRIPS	POUNDS	NUMBER OF LICENSES	TRIPS	POUNDS
89	LESS THAN 100 LBS	147	279	4,477	118	204	3,441	1	1	2
	100 - 999 LBS	94	652	31,092	80	348	26,917	.	.	.
	1000 - 4,999 LBS	27	565	51,301	15	200	27,794	.	.	.
	5,000 - 9,999 LBS	2	112	11,660	2	11	13,765	.	.	.
	10,000 LBS OR MORE	2	35	28,811	1	11	17,206	.	.	.
	TOTAL	272	1,643	127,341	216	774	89,123	1	1	2
90	POUND CATEGORY									
	LESS THAN 100 LBS	164	306	4,690	110	225	3,322	.	.	.
	100 - 999 LBS	110	712	37,957	79	583	27,129	.	.	.
	1000 - 4,999 LBS	36	818	77,185	19	301	43,147	.	.	.
	5,000 - 9,999 LBS	2	48	11,002	2	30	10,821	.	.	.
	TOTAL	312	1,884	130,834	210	1,139	84,419	.	.	.
91	POUND CATEGORY									
	LESS THAN 100 LBS	146	331	4,429	131	248	3,823	.	.	.
	100 - 999 LBS	129	1,145	41,563	80	519	25,399	.	.	.
	1000 - 4,999 LBS	33	593	62,192	19	508	39,996	.	.	.
	5,000 - 9,999 LBS	.	.	.	2	39	18,800	.	.	.
	10,000 LBS OR MORE	.	.	.	1	43	11,808	.	.	.
	TOTAL	308	2,069	108,184	233	1,357	99,826	.	.	.

(CONTINUED)

Table 5. (con't).

DEPARTMENT OF ENVIRONMENTAL PROTECTION
 FLORIDA MARINE RESEARCH INSTITUTE
 MARINE FISHERIES INFORMATION SYSTEM

09:35 Wednesday, September 25, 1996 3

CATFISH SPL LICENSES AND ANNUAL PRODUCTION SUMMARY
 PROGRAM: CATSPL SAS DATA: EDITED BATCHES 1 - 427

YEAR	POUND CATEGORY	COAST							
		ATLANTIC			GULF			INLAND/OUT OF STATE	
		NUMBER OF LICENSES	TRIPS	POUNDS	NUMBER OF LICENSES	TRIPS	POUNDS	NUMBER OF LICENSES	TRIPS
92	LESS THAN 100 LBS	194	433	5,532	136	242	4,098	.	.
	100 - 999 LBS	137	1,262	49,615	85	395	28,565	.	.
	1000 - 4,999 LBS	29	472	47,597	14	121	25,474	.	.
	TOTAL	360	2,167	102,744	235	758	58,137	.	.
93	POUND CATEGORY								
	LESS THAN 100 LBS	165	341	5,109	134	281	4,197	.	.
	100 - 999 LBS	135	1,047	45,924	76	405	20,664	.	.
	1000 - 4,999 LBS	19	394	34,627	9	46	19,963	.	.
	5,000 - 9,999 LBS	1	7	5,096	2	10	12,235	.	.
	10,000 LBS OR MORE	1	19	11,023	.	.	.	.	.
	TOTAL	321	1,808	101,779	221	742	57,059	.	.
94	POUND CATEGORY								
	LESS THAN 100 LBS	197	457	5,692	132	271	4,419	2	3
	100 - 999 LBS	135	1,063	49,738	84	585	26,305	.	.
	1000 - 4,999 LBS	23	559	41,342	10	150	16,430	.	.
	10,000 LBS OR MORE	1	109	14,827	1	12	11,091	.	.
	TOTAL	356	2,188	111,599	227	1,018	58,245	2	3
95	POUND CATEGORY								
	LESS THAN 100 LBS	178	332	5,676	105	209	2,729	1	3

(CONTINUED)

Table 5. (con't).

DEPARTMENT OF ENVIRONMENTAL PROTECTION
 FLORIDA MARINE RESEARCH INSTITUTE
 MARINE FISHERIES INFORMATION SYSTEM

09:35 Wednesday, September 25, 1996 4

CATFISH SPL LICENSES AND ANNUAL PRODUCTION SUMMARY
 PROGRAM: CATSPL SAS DATA: EDITED BATCHES 1 - 427

YEAR	POUND CATEGORY	COAST							
		ATLANTIC			GULF			INLAND/OUT OF STATE	
		NUMBER OF LICENSES	TRIPS	POUNDS	NUMBER OF LICENSES	TRIPS	POUNDS	NUMBER OF LICENSES	TRIPS
95	100 - 999 LBS	89	657	29,597	47	344	14,531	.	.
	1000 - 4,999 LBS	18	249	30,104	11	108	19,887	.	.
	5,000 - 9,999 LBS	1	56	5,125	.	.	.	.	.
	TOTAL	286	1,294	70,502	163	661	37,147	1	3
									17

from G:\DATA\SPECIES\CATFISH\CATSPL.LST

Table 5. (con't).

DEPARTMENT OF ENVIRONMENTAL PROTECTION
 FLORIDA MARINE RESEARCH INSTITUTE
 MARINE FISHERIES INFORMATION SYSTEM

09:35 Wednesday, September 25, 1996 2

CATFISH SPL LICENSES AND ANNUAL PRODUCTION SUMMARY
 PROGRAM: CATSPL SAS DATA: EDITED BATCHES 1 - 427

YEAR	POUND CATEGORY	COAST							
		ATLANTIC			GULF			INLAND/OUT OF STATE	
		NUMBER OF LICENSES	TRIPS	POUNDS	NUMBER OF LICENSES	TRIPS	POUNDS	NUMBER OF LICENSES	TRIPS
89	LESS THAN 100 LBS	147	279	4,477	118	204	3,441	1	1
	100 - 999 LBS	94	652	31,092	80	348	26,917	.	.
	1000 - 4,999 LBS	27	565	51,301	15	200	27,794	.	.
	5,000 - 9,999 LBS	2	112	11,660	2	11	13,765	.	.
	10,000 LBS OR MORE	2	35	28,811	1	11	17,206	.	.
	TOTAL	272	1,643	127,341	216	774	89,123	1	1
90	LESS THAN 100 LBS	164	306	4,690	110	225	3,322	.	.
	100 - 999 LBS	110	712	37,957	79	583	27,129	.	.
	1000 - 4,999 LBS	36	818	77,185	19	301	43,147	.	.
	5,000 - 9,999 LBS	2	48	11,002	2	30	10,821	.	.
	TOTAL	312	1,884	130,834	210	1,139	84,419	.	.
91	LESS THAN 100 LBS	146	331	4,429	131	248	3,823	.	.
	100 - 999 LBS	129	1,145	41,563	80	519	25,399	.	.
	1000 - 4,999 LBS	33	593	62,192	19	508	39,996	.	.
	5,000 - 9,999 LBS	.	.	.	2	39	18,800	.	.
	10,000 LBS OR MORE	.	.	.	1	43	11,808	.	.
	TOTAL	308	2,069	108,184	233	1,357	99,826	.	.

(CONTINUED)

Table 5. (con't).

DEPARTMENT OF ENVIRONMENTAL PROTECTION
 FLORIDA MARINE RESEARCH INSTITUTE
 MARINE FISHERIES INFORMATION SYSTEM

09:35 Wednesday, September 25, 1996 3

CATFISH SPL LICENSES AND ANNUAL PRODUCTION SUMMARY
 PROGRAM: CATSPL SAS DATA: EDITED BATCHES 1 - 427

YEAR	POUND CATEGORY	COAST							
		ATLANTIC			GULF			INLAND/OUT OF STATE	
		NUMBER OF LICENSES	TRIPS	POUNDS	NUMBER OF LICENSES	TRIPS	POUNDS	NUMBER OF LICENSES	TRIPS
92	LESS THAN 100 LBS	194	433	5,532	136	242	4,098	.	.
	100 - 999 LBS	137	1,262	49,615	85	395	28,565	.	.
	1000 - 4,999 LBS	29	472	47,597	14	121	25,474	.	.
	TOTAL	360	2,167	102,744	235	758	58,137	.	.
93	POUND CATEGORY								
	LESS THAN 100 LBS	165	341	5,109	134	281	4,197	.	.
	100 - 999 LBS	135	1,047	45,924	76	405	20,664	.	.
	1000 - 4,999 LBS	19	394	34,627	9	46	19,963	.	.
	5,000 - 9,999 LBS	1	7	5,096	2	10	12,235	.	.
	10,000 LBS OR MORE	1	19	11,023	.	.	.	.	.
	TOTAL	321	1,808	101,779	221	742	57,059	.	.
94	POUND CATEGORY								
	LESS THAN 100 LBS	197	457	5,692	132	271	4,419	2	3
	100 - 999 LBS	135	1,063	49,738	84	585	26,305	.	.
	1000 - 4,999 LBS	23	559	41,342	10	150	16,430	.	.
	10,000 LBS OR MORE	1	109	14,827	1	12	11,091	.	.
	TOTAL	356	2,188	111,599	227	1,018	58,245	2	3
95	POUND CATEGORY								
	LESS THAN 100 LBS	178	332	5,676	105	209	2,729	1	3

(CONTINUED)

Table 5. (con't).

DEPARTMENT OF ENVIRONMENTAL PROTECTION
 FLORIDA MARINE RESEARCH INSTITUTE
 MARINE FISHERIES INFORMATION SYSTEM

09:35 Wednesday, September 25, 1996 4

CATFISH SPL LICENSES AND ANNUAL PRODUCTION SUMMARY
 PROGRAM: CATSPL SAS DATA: EDITED BATCHES 1 - 427

YEAR	POUND CATEGORY	COAST							
		ATLANTIC			GULF			INLAND/OUT OF STATE	
		NUMBER OF LICENSES	TRIPS	POUNDS	NUMBER OF LICENSES	TRIPS	POUNDS	NUMBER OF LICENSES	TRIPS
95	100 - 999 LBS	89	657	29,597	47	344	14,531	.	.
	1000 - 4,999 LBS	18	249	30,104	11	108	19,887	.	.
	5,000 - 9,999 LBS	1	56	5,125	.	.	.	.	.
	TOTAL	286	1,294	70,502	163	661	37,147	1	31
									17

from G:\DATA\SPECIES\CATFISH\CATSPL.LST



Table 5. (con't).

DEPARTMENT OF ENVIRONMENTAL PROTECTION
 FLORIDA MARINE RESEARCH INSTITUTE
 MARINE FISHERIES INFORMATION SYSTEM

09:35 Wednesday, September 25, 1996 4

CATFISH SPL LICENSES AND ANNUAL PRODUCTION SUMMARY

PROGRAM: CATSPL SAS DATA: EDITED BATCHES 1 - 427

YEAR	POUND CATEGORY	COAST						INLAND/OUT OF STATE		
		ATLANTIC			GULF			NUMBER OF LICENSES	TRIPS	POUNDS
		NUMBER OF LICENSES	TRIPS	POUNDS	NUMBER OF LICENSES	TRIPS	POUNDS			
95	100 - 999 LBS	89	657	29,597	47	344	14,531	.	.	.
	1000 - 4,999 LBS	18	249	30,104	11	108	19,887	.	.	.
	5,000 - 9,999 LBS	1	56	5,125	.	.	.	.	.	.
	TOTAL	286	1,294	70,502	163	661	37,147	1	3	17

from G:\DATA\SPECIES\CATFISH\CATSPL.LST

Table 6. The major species or species groups reported to be landed with catfish by the commercial fishery during 1992-1995. Species or species groups include all those for which the total number of trips or total landings on trips that included catfish during 1992-1995 was equal to or exceeded 10% of the total number of trips reporting catfish or the total landings reported for catfish during this period.

DEPARTMENT OF ENVIRONMENTAL PROTECTION
FLORIDA MARINE RESEARCH INSTITUTE

09:55 Wednesday, September 25, 1996 1

SPECIES CAUGHT ON CATFISH TRIPS 1992-1995

SPECIES	SUB_REG						STATEWIDE	
	ATLANTIC		GULF		INLAND/OUT OF STATE			
	TRIPS	POUNDS	TRIPS	POUNDS	TRIPS	POUNDS		
TRIPS	SUM	TRIPS	SUM	TRIPS	SUM	TRIPS	STATEWIDE	
Bait fish (pounds)	60	5,300	298	27,404	.	.	358	
Bluefish	2,400	97,313	387	6,794	.	.	2,787	
Catfish	7,457	386,624	3,179	210,588	6	90	10,642	
Cigarfish (pounds)	1	4	6	50,955	.	.	7	
Croaker	1,415	16,703	63	1,210	2	33	1,480	
Flounders	1,226	10,455	386	2,407	1	15	1,613	
Jack, Crevalle	2,190	93,679	718	105,541	.	.	2,908	
Jack, Mixed	925	31,873	139	31,281	.	.	1,064	
Ladyfish	457	11,735	357	38,895	.	.	814	
Mahaden (Pogies)	1,016	362,166	51	266,303	.	.	1,067	
Mullet, Black	1,595	165,053	705	123,198	3	2,736	2,303	
Nile Perch/Tilapia	73	7,389	129	67,099	3	1,688	205	
Pompano	2,750	83,435	474	15,263	.	.	3,224	
Rays/Skates	4	219	110	43,922	.	.	114	
Seatrout, Spotted	1,687	48,570	846	14,775	1	4	2,534	
Shark	268	20,232	331	29,359	.	.	599	
Sheepshead	3,442	143,884	696	12,206	2	314	4,140	
Mackerel, Spanish	1,390	80,448	659	36,983	1	3	2,050	
Spot	1,444	89,196	359	73,800	3	150	1,806	
Misc. food fish	2,479	44,664	415	6,166	.	.	2,894	
Crabs, Blue (lbs,hard)	137	24,870	307	50,096	.	.	444	
Shrimp, Brown (whole)	.	.	326	71,091	.	.	326	
Mojarra	2,199	103,879	269	20,230	.	.	2,468	
TOTAL	39,195	1,972,582	14,227	1,503,544	22	5,033	53,444	

(CONTINUED)

Table 6. (con't).

DEPARTMENT OF ENVIRONMENTAL PROTECTION
FLORIDA MARINE RESEARCH INSTITUTE

09:55 Wednesday, September 25, 1996 8

SPECIES CAUGHT ON CATFISH TRIPS 1992-1995

	STATEWIDE POUNDS SUM
SPECIES	
Bait fish (pounds)	32,704
Bluefish	104,107
Catfish	597,302
Cigarfish (pounds)	50,959
Croaker	17,946
Flounders	12,877
Jack, Crevalle	199,220
Jack, Mixed	63,154
Ladyfish	50,630
Menhaden (Pogies)	628,469
Mullet, Black	290,987
Nile Perch/Tilapia	76,176
Pompano	98,698
Rays/Skates	44,141
Seatrout, Spotted	63,349
Shark	49,591
Sheepshead	156,404
Mackerel, Spanish	117,434
Spot	163,146
Misc. food fish	50,830
Crabs, Blue (lbs,hard)	74,966
Shrimp, Brown (whole)	71,091
Mojarra	124,109
TOTAL	3,481,159

from G:\DATA\SPECIES\CATFISH\CATSPP.LST

Table 7. Commercial landings of catfishes by county for the Atlantic or Gulf coasts of Florida.

Out-of-State	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
	0	0	0	0	0	0	0	0	0	0
Atlantic Coast-----										
Nassau	116	25	104	0	6	16	65	876	13	64
Duval	1,187	5,140	5,084	8,381	6,184	5,480	1,734	827	1,778	731
Clay	0	0	0	0	40	1,135	0	0	0	0
St. Johns	0	273	0	0	0	6	183	484	14,862	5,179
Putnam	0	495	983	3,212	2,093	1,467	774	792	0	17
Flagler	0	0	0	0	0	0	0	0	0	0
Volusia	9,751	13,574	38,102	55,308	22,824	20,644	19,034	31,613	24,427	9,074
Brevard	4,249	13,337	4,480	11,988	42,927	18,641	13,561	12,627	16,173	16,190
Indian River	1,806	4,723	1,417	4,669	3,697	1,011	7,442	7,291	7,307	12,355
St. Lucie	10,819	33,914	19,645	17,445	14,813	25,069	23,638	20,545	8,980	7,991
Martin	20,480	28,297	37,395	24,818	38,144	33,500	35,784	25,995	37,241	17,823
Palm Beach	186	1,960	1,600	1,520	106	1,216	154	723	760	1,078
Broward	0	175	0	0	0	0	0	105	6	0
Dade	0	0	0	0	0	0	0	270	0	3
Atlantic county totals	48,594	101,913	108,810	127,341	130,834	108,185	102,744	101,779	111,599	70,502
Gulf Coast-----										
Escambia	851	4,951	4,485	3,582	2,759	3,004	2,303	1,704	1,597	2,387
Santa Rosa	3,112	1,863	124	111	36	19	187	870	644	2
Okaloosa	4,942	14,377	8,946	3,630	0	45	0	7,429	0	0
Bay	16,424	80	466	3,550	8,156	2,500	1,055	1,150	3,644	99
Walton	0	310	0	0	0	0	0	0	0	0
Washington	0	0	0	0	0	0	0	0	0	0
Gulf	0	0	0	0	0	0	0	226	0	0
Franklin	0	0	0	309	19	153	36	15,258	16,852	591
Wakulla	0	0	0	136	1,579	0	51	25	0	72
Jefferson	0	0	0	0	0	0	0	0	0	0
Taylor	4	60	0	0	291	84	17	0	916	572
Dixie	835	0	0	215	11,530	18,470	7,301	2,132	1,102	0
Levy	779	2	0	568	1,968	2,925	3,438	1,839	726	445
Citrus	6,374	5,429	3,696	5,300	2,542	5,460	3,220	2,137	13,415	9,392
Hernando	0	0	0	0	5	215	1	13	7	21
Pasco	0	3	15,323	29,424	10,262	29,163	4,131	2,509	1,425	1,891
Pinellas	1,406	282	818	3,662	1,521	3,761	1,322	378	2,978	1,861
Hillsboro	615	45,685	2,353	770	870	12,246	9,696	2,915	747	1,969
Manatee	287	9,112	3,407	1,455	331	773	10,432	4,114	3,220	3,083
Sarasota	0	1	0	0	0	0	0	0	68	0
Charlotte	107	207	257	5,041	17,065	5,736	2,853	3,600	9,020	4,533
Lee	41,673	42,373	36,814	18,500	17,107	14,959	11,101	10,757	2,523	10,191
Collier	816	734	82	10,622	9,294	283	1,239	99	1,992	80
Monroe	2,515	420	132	743	307	0	561	129	102	18
Inland counties	0	0	0	64	363	0	0	0	0	17
TOTAL Gulf county landings	80,740	125,889	77,039	89,125	84,426	99,847	58,918	57,259	61,050	37,354
STATE TOTAL county landings	129,334	227,802	185,849	216,466	215,260	208,032	161,662	159,038	172,649	107,856

Table 8. Annual recreational catch and effort estimates for hardhead catfish or gafftopsail catfish during 1982-1995.

**DEPARTMENT OF ENVIRONMENTAL PROTECTION
FLORIDA MARINE RESEARCH INSTITUTE, St. Petersburg
FLORIDA LANDINGS SUMMARY**

SPECIES : YEARS :	Bagre marinus 1982 - 1995	Gafftopsail Catfish 1982 - 1995
COAST :		
ATLANTIC		
Year	1982 41	1983 24
Number of Intercept		
Number of Fish Caught	801,924	105,512
Number of Fish Released Alive	682,174	70,344
Number of Fish Harvested	119,750	35,168
Average Number of Fish Caught/Trip	3,220	2,458
Estimated Number of Directed Trips	249,083	42,920
Average Number of Fish Kept/Trip	0.707	0.667
Ratio Kept : Total	0.15	0.33
Average Number of Fish Caught/Angler	2,837	2,375
Estimated Number of Anglers	282,627	44,426
Average Number of Fish Caught/Hour	0.784	0.601
Estimated Number of Hours	1,023,134	175,471
Average Number of Fish Kept/Hour	0.165	0.198
Average Weight (lbs) of Fish Examined	1.085	1.139
Number of Fish Weighed	13	6
Estimated Recreational Landings (lbs)	129,969	40,058
	91,158	106,459
	26,261	12,040
	76,791	53,767
	219,621	44,937
	137,143	137,143
	67,910	67,910
	141,120	141,120
	153,699	153,699
1995	1994	1994
167	136	136

Data Sources: Recreational catch estimates were taken from the National Marine Fisheries Service's Marine Recreational Fisheries Statistical Surveys.

Table 8. Annual recreational catch and effort estimates for hardhead catfish or gafftopsail catfish during 1982-1995.

**DEPARTMENT OF ENVIRONMENTAL PROTECTION
FLORIDA MARINE RESEARCH INSTITUTE, St. Petersburg
FLORIDA LANDINGS SUMMARY**

Data Sources: Recreational catch estimates were taken from the National Marine Fisheries Service's Marine Recreational Fisheries Statistical Surveys. Data from C:\NPFWSA_DATA\1 ATUS6.WB2 (Murphy)

Table 8. Annual recreational catch and effort estimates for hardhead catfish or gafftopsail catfish during 1982-1995.

**DEPARTMENT OF ENVIRONMENTAL PROTECTION
FLORIDA MARINE RESEARCH INSTITUTE, St. Petersburg
FLORIDA LANDINGS SUMMARY**

SPECIES :		Arius felis						Hardhead Catfish							
YEARS :	1982 - 1995	ATLANTIC													
COAST :		1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
Year	Number of Intercepts	1982 314	1983 183	1984 220	1985 251	1986 133	1987 138	1988 255	1989 217	1990 174	1991 255	1992 329	1993 588	1994 774	1995 970
Number of Fish Caught	2,610,547	1,212,486	1,747,992	2,384,039	525,817	1,013,587	1,214,052	1,015,978	1,076,919	3,090,391	883,700	1,256,152	1,885,830	2,612,905	
Number of Fish Released Alive	1,874,256	949,123	1,552,382	1,984,703	251,307	985,658	1,065,139	918,421	975,287	2,960,545	757,958	1,174,116	1,805,234	2,516,246	
Number of Fish Harvested	736,291	263,363	195,610	399,336	274,510	27,929	148,913	97,557	101,632	129,846	125,742	82,036	80,597	96,658	
Average Number of Fish Caught/Trip	4,223	3,115	3,591	3,203	2,414	4,109	2,996	2,613	3,006	3,620	2,514	2,796	2,886	3,106	
Estimated Number of Directed Trips	618,184	389,272	486,782	744,271	217,862	246,693	405,214	388,831	358,287	853,792	351,556	449,281	653,372	841,194	
Average Number of Fish Kept/Trip	0.608	0.705	0.645	0.713	0.887	0.159	0.463	0.189	0.287	0.153	0.231	0.156	0.124	0.114	
Ratio Kept : Total	0.28	0.22	0.11	0.17	0.52	0.03	0.12	0.10	0.09	0.04	0.14	0.07	0.04	0.04	
Average Number of Fish Caught/Angler	4.012	2.936	3.364	2.917	2,178	3,978	2,841	2,478	2,863	3,404	2,386	2,701	2,804	3,034	
Estimated Number of Anglers	650,677	413,001	519,600	817,422	241,428	254,782	427,306	409,956	376,210	907,804	370,366	465,027	672,435	861,251	
Average Number of Fish Caught/Hour	1,259	0.825	0.822	0.764	0.582	1,150	0.884	0.691	0.867	0.956	0.704	0.821	0.885	0.847	
Estimated Number of Hours	2,072,727	1,469,518	2,126,000	3,121,631	903,799	881,102	1,373,132	1,469,570	1,242,079	3,233,636	1,254,388	1,529,659	2,131,360	3,085,029	
Average Number of Fish Kept/Hour	0.162	0.197	0.148	0.143	0.216	0.045	0.101	0.053	0.095	0.048	0.068	0.038	0.039	0.032	
Average Weight (lbs) of Fish Examined	0.652	0.640	0.666	0.668	0.509	0.694	0.673	0.698	0.816	0.816	0.775	0.861	0.825	0.653	
Number of Fish Weighed	46	31	53	101	104	20	38	12	10	10	29	52	39	64	
Estimated Recreational Landings (lbs)	479,908	168,563	130,185	266,726	139,657	19,395	100,215	68,106	82,901	105,915	97,501	70,603	66,517	63,095	

Data Sources: Recreational catch estimates were taken from the National Marine Fisheries Service's *Marine Recreational Fisheries Statistical Surveys*.

Table 8. Annual recreational catch and effort estimates for hardhead catfish or gafftopsail catfish during 1982-1995.

**DEPARTMENT OF ENVIRONMENTAL PROTECTION
FLORIDA MARINE RESEARCH INSTITUTE, St. Petersburg
FLORIDA LANDINGS SUMMARY**

SPECIES : YEARS :	Arius felis 1982 - 1995	Hardhead Catfish
COAST :	GULF	
Year	1982 1983 1984 1985 1986 1987 1988 1989 1990 1991 1992 1993 1994 1995	
Number of Intercepts	420 157 171 215 110 334 553 422 332 401 855 1,023 1,236 1,224	
Number of Fish Caught	2,639,276 2,900,696 4,923,798 3,773,003 748,817 1,466,710 2,989,921 2,978,786 2,250,049 3,559,469 2,567,636 2,736,317 3,118,482 3,165,147	
Number of Fish Released Alive	2,373,867 2,709,762 4,444,824 3,185,293 504,673 1,304,373 2,655,094 2,713,693 2,120,424 3,063,177 2,454,555 2,591,208 2,939,071 2,977,100	
Number of Fish Harvested	265,409 190,935 478,974 587,710 244,144 162,337 334,827 265,094 129,625 496,292 113,082 145,109 179,411 188,048	
Average Number of Fish Caught/Trip	3,769 3,879 4,725 4,084 3,264 3,838 3,526 4,265 3,105 3,135 2,713 2,804 2,867	
Estimated Number of Directed Trips	700,250 747,799 1,042,041 923,913 229,443 382,123 847,911 698,360 724,555 1,135,519 946,263 976,029 1,087,904 2,846	
Average Number of Fish Kept/Trip	0.410 0.376 0.538 0.926 1.091 0.368 0.363 0.341 0.163 0.204 0.109 0.146 0.142	
Ratio Kept : Total	0.10 0.07 0.10 0.16 0.33 0.11 0.11 0.09 0.06 0.06 0.14 0.04 0.05	
Average Number of Fish Caught/Angler	3.387 3.412 4.333 3.831 3.189 3.646 3.289 3.943 2.890 2.919 2.475 2.677	
Estimated Number of Anglers	779,277 850,041 1,136,367 984,785 234,783 402,252 908,951 755,543 778,480 1,219,347 1,037,515 1,022,122 1,148,067	
Average Number of Fish Caught/Hour	0.799 0.871 1.264 1.239 0.839 1.165 0.945 1.087 0.890 0.837 0.707 0.805	
Estimated Number of Hours	3,301,342 3,331,030 3,896,276 3,046,118 892,285 1,259,388 3,164,693 2,740,980 2,526,899 4,254,864 3,632,641 3,400,471	
Average Number of Fish Kept/Hour	0.081 0.048 0.084 0.291 0.276 0.114 0.084 0.055 0.067 0.060 0.026 0.041	
Average Weight (lbs) of Fish Examined	0.990 0.802 0.959 0.960 0.797 0.967 0.955 0.870 1.102 0.882 1.165 1.033	
Number of Fish Weighed	92 33 37 34 13 44 42 18 18 13 28 51	
Estimated Recreational Landings (lbs)	262,667 153,066 459,476 563,992 194,593 156,982 319,867 230,522 142,885 437,647 131,772 149,917 196,058	184,671

Data Sources: Recreational catch estimates were taken from the National Marine Fisheries Service's Marine Recreational Fisheries Statistical Surveys.
from C:\QPWSA\DATA\STATUS96.WB2 (Murphy)

Table 9. Recreational catch and effort estimates for hardhead catfish and gafftopsail catfish caught on the Atlantic or Gulf coasts of Florida during 1982-1995.

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
FLORIDA MARINE RESEARCH INSTITUTE

14:42 Tuesday, August 20, 1996 233

1982-95 MRFSS *Arius felis* NEW ESTIMATES FOR FLORIDA
BY COAST, YEAR, AND TWO-MONTH WAVE

Coast: ATLANTIC

Arius felis		NUMBER OF TRIPS IN AREA FISHED	ESTIMATED FISH CLAIMED	ESTIMATED FISH HARVESTED	ESTIMATED FISH RELEASED	LANDINGS	TOTAL CATCH
							Type A+B1+B2
YEAR	WAVE OF DATA						
82	Jan-Feb	339,436	2,482	0	12,806	2,482	15,288
	Mar-Apr	1,400,983	76,668	469,361	625,815	546,029	1,171,844
	May-Jun	1,667,342	62,034	66,928	391,000	128,962	519,962
	Jul-Aug	1,317,758	6,654	12,829	504,869	19,483	524,352
	Sep-Oct	862,884	6,971	14,466	230,560	21,437	251,998
	Nov-Dec	811,972	4,555	13,342	109,206	17,897	127,103
	Annual	6,400,375	159,365	576,927	1,874,256	736,291	2,610,547
83	WAVE OF DATA						
	Jan-Feb	927,084	0	47,051	24,090	47,051	71,141
	Mar-Apr	763,110	21,745	42,872	76,279	64,617	140,896
	May-Jun	1,411,415	0	27,652	158,617	27,652	186,269
	Jul-Aug	1,345,363	14,567	70,553	408,789	85,119	493,908
	Sep-Oct	979,442	14,278	23,376	256,901	37,653	294,554
	Nov-Dec	579,005	0	1,271	24,446	1,271	25,718
	Annual	6,005,420	50,589	212,774	949,123	263,363	1,212,486
84	WAVE OF DATA						
	Jan-Feb	439,002	0	1,399	17,329	1,399	18,728
	Mar-Apr	1,149,554	23,227	24,909	195,134	48,135	243,269
	May-Jun	1,235,590	50,933	48,845	298,410	99,778	398,188
	Jul-Aug	1,866,762	9,133	0	439,325	9,133	448,458
	Sep-Oct	1,324,914	15,064	13,641	278,069	28,705	306,774
	Nov-Dec	1,332,976	0	8,459	324,116	8,459	332,575
	Annual	7,348,797	98,357	97,253	1,552,382	195,610	1,747,992
85	WAVE OF DATA						
	Jan-Feb	1,517,781	90,019	0	388,656	90,019	478,675
	Mar-Apr	1,168,538	1,662	0	45,244	1,662	46,906
	May-Jun	1,429,270	120,066	72,456	296,128	192,522	488,651
	Jul-Aug	1,487,644	35,338	8,890	456,292	44,228	500,521
	Sep-Oct	1,383,139	50,154	4,442	582,763	54,597	637,359
	Nov-Dec	736,128	13,883	2,425	215,619	16,308	231,927

(CONTINUED)

Table 9. (con't).

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
FLORIDA MARINE RESEARCH INSTITUTE

14:42 Tuesday, August 20, 1996 234

1982-95 MRFSS Arius felis NEW ESTIMATES FOR FLORIDA
BY COAST, YEAR, AND TWO-MONTH WAVE

Coast: ATLANTIC

YEAR	Arius felis	NUMBER OF TRIPS IN AREA FISHED	ESTIMATED FISH CLAIMED	ESTIMATED FISH HARVESTED	ESTIMATED FISH RELEASED	LANDINGS	TOTAL CATCH
			Trips	Type A	Type B1		
			Type A+B1+B2				
85	Annual	7,722,500	311,123	88,214	1,984,703	399,336	2,384,039
86	WAVE OF DATA						
	Jan-Feb	1,740,752	52,969	0	52,277	52,969	105,247
	Mar-Apr	1,469,900	99,017	0	26,227	99,017	125,245
	May-Jun	1,201,427	28,359	21,514	172,802	49,873	222,675
	Jul-Aug	368,230	36,823	0	0	36,823	36,823
	Sep-Oct	946,175	18,267	0	0	18,267	18,267
	Nov-Dec	912,902	17,560	0	0	17,560	17,560
87	Annual	6,639,386	252,996	21,514	251,307	274,510	525,817
	WAVE OF DATA						
	Jan-Feb	1,190,791	4,850	0	43,666	4,850	48,516
	Mar-Apr	642,028	1,339	0	113,899	1,339	115,238
	May-Jun	1,337,227	3,850	2,567	271,672	6,416	278,089
	Jul-Aug	1,112,933	10,419	0	485,073	10,419	495,492
	Sep-Oct	1,697,625	4,906	0	48,088	4,906	52,994
88	Nov-Dec	714,710	0	0	23,260	0	23,260
	Annual	6,695,314	25,363	2,567	985,658	27,929	1,013,587
	WAVE OF DATA						
	Jan-Feb	853,816	0	0	72,456	0	72,456
	Mar-Apr	1,530,668	0	21,121	121,583	21,121	142,703
	May-Jun	1,212,002	26,353	2,654	281,713	29,007	310,720
	Jul-Aug	1,442,785	6,696	4,160	151,433	10,856	162,289
89	Sep-Oct	1,657,937	22,230	27,669	310,045	49,900	359,945
	Nov-Dec	1,009,819	6,811	31,219	127,909	38,030	165,939
	Annual	7,707,026	62,090	86,823	1,065,139	148,913	1,214,052
	WAVE OF DATA						
	Jan-Feb	1,446,933	5,794	0	70,530	5,794	76,324
	Mar-Apr	681,327	8,419	0	42,705	8,419	51,123
	May-Jun	1,656,035	8,403	8,593	194,192	16,996	211,188
	Jul-Aug	1,920,153	0	56,284	357,960	56,284	414,243

(CONTINUED)

Table 9. (con't).

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
FLORIDA MARINE RESEARCH INSTITUTE

14:42 Tuesday, August 20, 1996 235

1982-95 MRFSS *Arius felis* NEW ESTIMATES FOR FLORIDA
BY COAST, YEAR, AND TWO-MONTH WAVE

Coast: ATLANTIC

Arius felis		NUMBER OF TRIPS IN AREA FISHED	ESTIMATED FISH CLAIMED	ESTIMATED FISH HARVESTED	ESTIMATED FISH RELEASED	LANDINGS	TOTAL CATCH
							Type A+B1+B2
YEAR	WAVE OF DATA						
89	Sep-Oct	1,225,852	4,352	0	143,401	4,352	147,753
	Nov-Dec	1,160,816	5,713	0	109,634	5,713	115,347
	Annual	8,091,115	32,680	64,877	918,421	97,557	1,015,978
90	WAVE OF DATA						
	Jan-Feb	970,597	5,021	1,440	69,878	6,461	76,339
	Mar-Apr	1,133,815	0	0	163,027	0	163,027
	May-Jun	1,145,660	30,030	0	318,793	30,030	348,822
	Jul-Aug	981,962	12,799	0	255,096	12,799	267,896
	Sep-Oct	945,224	12,299	30,280	78,843	42,579	121,422
	Nov-Dec	867,225	9,763	0	89,650	9,763	99,412
91	WAVE OF DATA						
	Jan-Feb	995,562	9,962	0	33,072	9,962	43,034
	Mar-Apr	1,467,365	9,862	0	129,538	9,862	139,400
	May-Jun	1,561,354	7,169	19,682	355,664	26,851	382,516
	Jul-Aug	2,221,652	6,984	59,515	2,071,680	66,499	2,138,179
	Sep-Oct	1,614,742	0	0	166,279	0	166,279
	Nov-Dec	1,022,854	16,671	0	204,312	16,671	220,983
92	WAVE OF DATA						
	Jan-Feb	758,025	1,119	0	29,870	1,119	30,989
	Mar-Apr	1,500,823	7,266	1,358	56,537	8,625	65,162
	May-Jun	1,825,830	18,784	12,051	229,898	30,835	260,732
	Jul-Aug	2,236,274	15,644	38,030	144,580	53,674	198,254
	Sep-Oct	1,599,132	2,742	7,539	179,712	10,281	189,994
	Nov-Dec	1,481,811	7,830	13,378	117,360	21,209	138,569
93	WAVE OF DATA						
	Jan-Feb	869,609	12,837	6,111	50,970	18,948	69,918
	Mar-Apr	1,561,276	4,632	8,211	202,100	12,843	214,943

(CONTINUED)

Table 9. (con't).

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
FLORIDA MARINE RESEARCH INSTITUTE

14:42 Tuesday, August 20, 1996 236

1982-95 MRFSS *Arius felis* NEW ESTIMATES FOR FLORIDA
BY COAST, YEAR, AND TWO-MONTH WAVE

Coast: ATLANTIC

Arius felis	YEAR	WAVE OF DATA	NUMBER OF	ESTIMATED	ESTIMATED	ESTIMATED	LANDINGS	TOTAL CATCH
			TRIPS IN	FISH	FISH	FISH		
			AREA FISHED	CLAIMED	HARVESTED	RELEASED		
			Trips	Type A	Type B1	Type B2	Type A+B1	Type A+B1+B2
93	May-Jun		1,600,292	10,385	11,510	267,777	21,894	289,672
	Jul-Aug		1,625,047	3,562	5,603	219,852	9,165	229,017
	Sep-Oct		1,485,201	13,379	4,327	279,469	17,706	297,174
	Nov-Dec		1,538,946	650	830	153,947	1,480	155,427
	Annual		8,680,371	45,445	36,592	1,174,116	82,036	1,256,152
94	Jan-Feb		1,412,198	8,158	2,136	111,809	10,294	122,103
	Mar-Apr		1,718,463	5,737	5,042	454,892	10,779	465,671
	May-Jun		2,076,312	5,027	5,552	289,687	10,579	300,266
	Jul-Aug		1,835,241	6,824	9,660	416,393	16,484	432,877
	Sep-Oct		1,981,761	14,549	3,856	308,172	18,405	326,577
	Nov-Dec		1,615,477	12,105	1,950	224,281	14,055	238,336
	Annual		10,639,452	52,400	28,197	1,805,234	80,597	1,885,830
95	Jan-Feb		1,471,134	18,152	0	104,167	18,152	122,319
	Mar-Apr		1,730,093	19,124	13,649	557,073	32,773	589,846
	May-Jun		2,290,645	15,110	9,876	530,468	24,986	555,454
	Jul-Aug		1,684,418	5,970	0	378,042	5,970	384,012
	Sep-Oct		1,761,114	2,896	5,570	698,735	8,467	707,201
	Nov-Dec		1,471,963	2,653	3,658	247,760	6,311	254,071
	Annual		10,409,368	63,905	32,754	2,516,246	96,658	2,612,905

Table 9. (con't).

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
FLORIDA MARINE RESEARCH INSTITUTE

14:42 Tuesday, August 20, 1996 237

1982-95 MRFSS *Arius felis* NEW ESTIMATES FOR FLORIDA
BY COAST, YEAR, AND TWO-MONTH WAVE

Coast: GULF

Arius felis	NUMBER OF TRIPS IN AREA FISHED	ESTIMATED FISH CLAIMED	ESTIMATED FISH HARVESTED	ESTIMATED FISH RELEASED	LANDINGS	TOTAL CATCH	
						Type A+B1	Type A+B1+B2
YEAR	WAVE OF DATA						
82	Jan-Feb	425,930	439	0	12,360	439	12,799
	Mar-Apr	1,680,445	37,825	2,650	446,929	40,475	487,404
	May-Jun	1,511,430	56,985	20,208	346,301	77,193	423,495
	Jul-Aug	2,343,723	95,460	23,977	823,777	119,436	943,214
	Sep-Oct	1,092,634	16,329	5,418	557,810	21,747	579,557
	Nov-Dec	464,069	6,118	0	186,689	6,118	192,807
	Annual	7,518,233	213,156	52,253	2,373,867	265,409	2,639,276
83	WAVE OF DATA						
	Jan-Feb	334,815	0	0	99,072	0	99,072
	Mar-Apr	948,557	12,710	0	246,321	12,710	259,031
	May-Jun	1,782,626	40,770	5,685	315,010	46,455	361,465
	Jul-Aug	3,897,553	32,619	4,594	953,274	37,213	990,487
	Sep-Oct	2,537,957	49,781	44,776	572,207	94,557	666,763
	Nov-Dec	848,554	0	0	523,878	0	523,878
84	WAVE OF DATA						
	Jan-Feb	887,489	0	0	22,704	0	22,704
	Mar-Apr	929,829	178,990	0	506,174	178,990	685,164
	May-Jun	3,076,494	67,429	8,824	1,914,060	76,253	1,990,314
	Jul-Aug	3,693,311	77,136	58,994	624,042	136,130	760,172
	Sep-Oct	3,392,109	37,583	50,016	1,332,418	87,600	1,420,018
	Nov-Dec	392,895	0	0	45,426	0	45,426
85	WAVE OF DATA						
	Jan-Feb	767,006	0	6,615	515,840	6,615	522,456
	Mar-Apr	2,552,204	0	8,218	474,625	8,218	482,843
	May-Jun	1,466,413	74,683	52,456	233,687	127,139	360,826
	Jul-Aug	2,431,694	4,829	233,599	1,432,434	238,428	1,670,863
	Sep-Oct	1,689,558	3,963	164,301	439,750	168,264	608,014
	Nov-Dec	472,732	5,175	33,871	88,956	39,045	128,001

(CONTINUED)

Table 9. (con't).

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
FLORIDA MARINE RESEARCH INSTITUTE

14:42 Tuesday, August 20, 1996 238

1982-95 MRFSS *Arius felis* NEW ESTIMATES FOR FLORIDA
BY COAST, YEAR, AND TWO-MONTH WAVE

Coast: GULF

Arius felis		NUMBER OF TRIPS IN AREA FISHED	ESTIMATED FISH CLAIMED	ESTIMATED FISH HARVESTED	ESTIMATED FISH RELEASED	LANDINGS	TOTAL CATCH
							Type A+B1+B2
YEAR	Annual						
85		9,379,608	88,650	499,060	3,185,293	587,710	3,773,003
86	WAVE OF DATA						
	Jan-Feb	332,022	2,450	7,662	6,385	10,112	16,497
	Mar-Apr	2,032,040	10,670	62,531	138,792	73,202	211,994
	May-Jun	2,330,949	6,964	147,246	359,496	154,211	513,706
	Jul-Aug	809,248	1,550	0	0	1,550	1,550
	Sep-Oct	979,064	2,106	0	0	2,106	2,106
	Nov-Dec	466,242	2,963	0	0	2,963	2,963
	Annual	6,949,565	26,704	217,440	504,673	244,144	748,817
87	WAVE OF DATA						
	Jan-Feb	738,079	5,570	0	57,215	5,570	62,786
	Mar-Apr	1,536,002	26,842	11,131	87,105	37,973	125,078
	May-Jun	1,333,824	4,544	5,702	190,335	10,245	200,580
	Jul-Aug	1,760,619	14,314	6,757	578,834	21,070	599,904
	Sep-Oct	1,897,921	38,832	48,646	342,653	87,478	430,132
	Nov-Dec	778,836	0	0	48,231	0	48,231
	Annual	8,045,281	90,102	72,235	1,304,373	162,337	1,466,710
88	WAVE OF DATA						
	Jan-Feb	1,746,954	5,106	0	97,062	5,106	102,168
	Mar-Apr	1,557,823	1,669	24,042	214,616	25,711	240,327
	May-Jun	2,739,286	45,577	33,030	362,167	78,607	440,774
	Jul-Aug	3,097,390	26,801	53,042	939,186	79,843	1,019,029
	Sep-Oct	2,643,651	25,015	119,138	769,885	144,153	914,038
	Nov-Dec	1,935,193	0	1,407	272,177	1,407	273,585
	Annual	13,720,296	104,167	230,660	2,655,094	334,827	2,989,921
89	WAVE OF DATA						
	Jan-Feb	2,614,322	0	15,630	285,229	15,630	300,859
	Mar-Apr	2,395,105	53,320	42,084	407,639	95,403	503,042
	May-Jun	1,983,420	55,641	4,747	590,158	60,388	650,545
	Jul-Aug	1,602,121	0	24,547	648,328	24,547	672,875

(CONTINUED)

Table 9. (con't).

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
FLORIDA MARINE RESEARCH INSTITUTE

14:42 Tuesday, August 20, 1996 239

1982-95 MRFSS ARIUS felis NEW ESTIMATES FOR FLORIDA
BY COAST, YEAR, AND TWO-MONTH WAVE

Coast: GULF

YEAR	ARIUS felis	NUMBER OF TRIPS IN AREA FISHED	ESTIMATED FISH CLAIMED	ESTIMATED FISH HARVESTED	ESTIMATED FISH RELEASED	LANDINGS	TOTAL CATCH
			Trips	Type A	Type B1		
89	Sep-Oct	1,462,949	39,794	14,872	644,376	54,666	699,042
	Nov-Dec	1,320,475	5,605	8,854	137,965	14,459	152,424
	Annual	11,378,392	154,360	110,734	2,713,693	265,094	2,978,786
90	WAVE OF DATA						
	Jan-Feb	1,635,759	19,644	22,860	454,557	42,504	497,062
	Mar-Apr	1,193,588	0	0	227,993	0	227,993
	May-Jun	1,794,975	42,327	2,561	298,364	44,888	343,252
	Jul-Aug	1,942,962	3,856	0	777,491	3,856	781,347
	Sep-Oct	771,186	2,467	14,808	164,849	17,275	182,124
	Nov-Dec	1,204,305	1,470	19,631	197,169	21,101	218,270
	Annual	8,542,775	69,764	59,861	2,120,424	129,625	2,250,049
91	WAVE OF DATA						
	Jan-Feb	811,288	3,003	0	94,255	3,003	97,258
	Mar-Apr	2,057,095	27,703	2,114	479,302	29,817	509,119
	May-Jun	2,523,491	23,064	0	880,404	23,064	903,468
	Jul-Aug	3,270,402	31,756	391,264	1,139,225	423,020	1,562,245
	Sep-Oct	2,377,921	1,486	15,903	418,724	17,388	436,112
	Nov-Dec	910,855	0	0	51,267	0	51,267
	Annual	11,951,052	87,012	409,280	3,063,177	496,292	3,559,469
92	WAVE OF DATA						
	Jan-Feb	1,637,035	4,603	0	158,737	4,603	163,340
	Mar-Apr	2,115,504	5,337	6,021	303,234	11,358	314,592
	May-Jun	2,416,398	12,650	799	430,860	13,449	444,309
	Jul-Aug	2,882,762	16,838	26,666	746,890	43,504	790,394
	Sep-Oct	2,184,857	1,442	741	512,843	2,183	515,026
	Nov-Dec	2,125,115	37,984	0	301,991	37,984	339,976
	Annual	13,361,671	78,855	34,227	2,454,555	113,082	2,567,636
93	WAVE OF DATA						
	Jan-Feb	1,782,276	4,925	0	420,706	4,925	425,632
	Mar-Apr	1,873,617	2,453	832	324,908	3,285	328,193

(CONTINUED)

Table 9. (con't).

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
FLORIDA MARINE RESEARCH INSTITUTE

14:42 Tuesday, August 20, 1996 240

1982-95 MRFSS *Arius felis* NEW ESTIMATES FOR FLORIDA
BY COAST, YEAR, AND TWO-MONTH WAVE

Coast: GULF

Arius felis		NUMBER OF TRIPS IN AREA FISHED	ESTIMATED FISH CLAIMED	ESTIMATED FISH HARVESTED	ESTIMATED FISH RELEASED	LANDINGS	TOTAL CATCH
YEAR	WAVE OF DATA	Trips	Type A	Type B1	Type B2	Type A+B1	Type A+B1+B2
93	May-Jun	2,192,864	26,202	20,011	640,980	46,213	687,193
	Jul-Aug	2,571,747	11,649	43,765	694,765	55,414	750,180
	Sep-Oct	2,291,770	13,122	17,630	379,847	30,752	410,599
	Nov-Dec	1,602,747	3,096	1,423	130,001	4,520	134,521
	Annual	12,315,021	61,448	83,662	2,591,208	145,109	2,736,317
94	WAVE OF DATA						
	Jan-Feb	1,277,299	11,755	1,078	118,900	12,833	131,733
	Mar-Apr	2,279,708	25,734	8,452	522,442	34,186	556,628
	May-Jun	2,384,328	20,946	21,184	710,183	42,129	752,312
	Jul-Aug	2,478,039	14,327	27,767	664,910	42,093	707,003
	Sep-Oct	2,493,809	18,173	27,758	714,660	45,931	760,592
95	Nov-Dec	1,661,150	0	2,238	207,976	2,238	210,214
	Annual	12,574,333	90,935	88,476	2,939,071	179,411	3,118,482
	WAVE OF DATA						
	Jan-Feb	1,836,841	3,282	2,366	167,667	5,648	173,315
	Mar-Apr	2,147,173	21,209	0	480,414	21,209	501,623
95	May-Jun	2,697,680	25,556	33,028	951,477	58,583	1,010,061
	Jul-Aug	1,787,139	31,353	27,696	703,470	59,049	762,519
	Sep-Oct	1,946,765	38,078	3,163	572,211	41,241	613,452
	Nov-Dec	1,347,429	2,318	0	101,860	2,318	104,178
	Annual	11,763,029	121,795	66,252	2,977,100	188,048	3,165,147

from G:\DATA\SPECIES\CATFISH\HC8295.lst

Table 9. (con't).

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
FLORIDA MARINE RESEARCH INSTITUTE

14:42 Tuesday, August 20, 1996 241

1982-95 MRFSS Bagre marinus NEW ESTIMATES FOR FLORIDA
BY COAST, YEAR, AND TWO-MONTH WAVE

Coast: ATLANTIC

YEAR	WAVE OF DATA	NUMBER OF TRIPS IN AREA FISHED	ESTIMATED FISH CLAIMED		ESTIMATED FISH RELEASED	LANDINGS	TOTAL CATCH
			Trips	Type A			
82	Mar-Apr	1,631,627	22,351	73,462	633,121	95,813	728,934
	May-Jun	827,279	10,777	0	3,759	10,777	14,536
	Jul-Aug	1,317,758	9,850	3,310	25,541	13,160	38,701
	Sep-Oct	138,051	0	0	10,226	0	10,226
	Nov-Dec	315,596	0	0	9,528	0	9,528
	Annual	4,230,312	42,978	76,772	682,174	119,750	801,924
83	WAVE OF DATA						
	Jan-Feb	353,348	0	13,209	3,302	13,209	16,512
	Mar-Apr	558,229	7,579	8,275	2,219	15,854	18,073
	May-Jun	283,091	0	0	5,551	0	5,551
	Sep-Oct	283,893	0	6,105	58,000	6,105	64,105
	Nov-Dec	138,053	0	0	1,271	0	1,271
84	WAVE OF DATA						
	Mar-Apr	544,271	2,327	3,808	0	6,134	6,134
	May-Jun	419,760	0	0	8,429	0	8,429
	Jul-Aug	197,888	0	0	6,089	0	6,089
	Sep-Oct	193,781	0	0	28,627	0	28,627
	Nov-Dec	680,104	24,996	6,460	20,090	31,456	51,546
85	WAVE OF DATA						
	Jan-Feb	715,811	12,760	6,380	11,813	19,140	30,953
	Mar-Apr	822,457	4,533	5,817	10,156	10,350	20,506
	Nov-Dec	377,590	0	0	5,068	0	5,068
	Annual	1,915,858	17,293	12,197	27,038	29,490	56,528
86	WAVE OF DATA						
	Jan-Feb	564,924	0	0	1,696	0	1,696
	Mar-Apr	319,099	1,093	0	0	1,093	1,093
	May-Jun	338,354	2,934	0	2,934	2,934	5,867
	Jul-Aug	368,230	1,473	0	0	1,473	1,473

(CONTINUED)

Table 9. (con't).

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
FLORIDA MARINE RESEARCH INSTITUTE

14:42 Tuesday, August 20, 1996 242

1982-95 MRFSS Bagre marinus NEW ESTIMATES FOR FLORIDA
BY COAST, YEAR, AND TWO-MONTH WAVE

Coast: ATLANTIC

Bagre marinus		NUMBER OF TRIPS IN AREA FISHED	ESTIMATED FISH CLAIMED	ESTIMATED FISH HARVESTED	ESTIMATED FISH RELEASED	LANDINGS	TOTAL CATCH
							Type A+B1+B2
YEAR	WAVE OF DATA						
86	Sep-Oct	485,135	2,236	0	0	2,236	2,236
	Annual	2,075,742	7,735	0	4,630	7,735	12,365
87	WAVE OF DATA						
	Jan-Feb	547,087	0	0	2,910	0	2,910
	Mar-Apr	491,231	5,354	0	9,370	5,354	14,724
	May-Jun	529,997	0	0	10,266	0	10,266
	Jul-Aug	102,569	2,093	0	0	2,093	2,093
	Sep-Oct	489,400	0	0	2,399	0	2,399
88	Annual	2,160,285	7,447	0	24,945	7,447	32,392
	WAVE OF DATA						
	Mar-Apr	1,067,513	0	0	8,363	0	8,363
	May-Jun	337,090	1,327	6,636	3,981	7,963	11,944
	Jul-Aug	772,347	12,849	1,040	20,444	13,889	34,333
	Sep-Oct	642,396	1,870	4,173	20,202	6,043	26,244
	Nov-Dec	217,374	1,132	0	8,094	1,132	9,226
89	Annual	3,036,720	17,178	11,848	61,083	29,027	90,110
	WAVE OF DATA						
	Jan-Feb	657,597	0	0	8,691	0	8,691
	Mar-Apr	302,491	1,769	0	0	1,769	1,769
	May-Jun	1,079,743	1,764	0	3,611	1,764	5,375
	Jul-Aug	668,673	1,081	8,727	2,182	9,808	11,989
	Sep-Oct	294,474	3,875	0	2,618	3,875	6,492
90	Nov-Dec	286,515	0	0	10,419	0	10,419
	Annual	3,289,493	8,489	8,727	27,520	17,215	44,735
	WAVE OF DATA						
	Jan-Feb	744,447	0	0	72,706	0	72,706
	May-Jun	1,145,660	0	24,559	18,652	24,559	43,211
91	Jul-Aug	172,623	27,256	0	1,308	27,256	28,564
	Sep-Oct	666,879	7,640	0	1,900	7,640	9,540
	Nov-Dec	627,729	3,463	0	6,317	3,463	9,780

(CONTINUED)

Table 9. (con't).

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
FLORIDA MARINE RESEARCH INSTITUTE

14:42 Tuesday, August 20, 1996 243

1982-95 MRFSS Bagre marinus NEW ESTIMATES FOR FLORIDA
BY COAST, YEAR, AND TWO-MONTH WAVE

Coast: ATLANTIC

Bagre marinus		NUMBER OF TRIPS IN AREA FISHED	ESTIMATED FISH CLAIMED	ESTIMATED FISH HARVESTED	ESTIMATED FISH RELEASED	LANDINGS	TOTAL CATCH
YEAR	Annual	Trips	Type A	Type B1	Type B2	Type A+B1	Type A+B1+B2
90		3,357,338	38,359	24,559	100,883	62,918	163,801
91	WAVE OF DATA						
	Jan-Feb	337,238	0	1,167	4,668	1,167	5,835
	Mar-Apr	946,426	1,409	0	8,546	1,409	9,955
	May-Jun	1,157,875	7,778	9,075	28,599	16,853	45,452
	Jul-Aug	1,304,316	1,250	0	9,669	1,250	10,919
	Sep-Oct	787,623	0	0	10,053	0	10,053
	Nov-Dec	422,936	0	0	13,485	0	13,485
	Annual	4,956,414	10,437	10,242	75,020	20,679	95,698
92	WAVE OF DATA						
	Jan-Feb	177,869	1,119	559	559	1,678	2,237
	Mar-Apr	761,514	1,356	679	8,072	2,035	10,107
	May-Jun	1,825,830	25,159	0	17,045	25,159	42,205
	Jul-Aug	1,757,405	11,435	2,575	7,171	14,010	21,180
	Sep-Oct	1,344,703	1,690	1,722	47,679	3,412	51,092
	Nov-Dec	1,401,729	0	0	4,837	0	4,837
	Annual	7,269,050	40,759	5,535	85,363	46,294	131,657
93	WAVE OF DATA						
	Jan-Feb	429,007	1,222	0	0	1,222	1,222
	Mar-Apr	1,564,324	3,886	12,877	44,152	16,763	60,915
	May-Jun	1,282,629	3,215	0	27,497	3,215	30,712
	Jul-Aug	1,318,969	3,119	0	6,176	3,119	9,295
	Sep-Oct	1,081,975	0	0	11,787	0	11,787
	Nov-Dec	950,394	0	0	16,752	0	16,752
	Annual	6,627,297	11,442	12,877	106,363	24,319	130,682
94	WAVE OF DATA						
	Jan-Feb	1,412,198	967	2,417	19,504	3,384	22,888
	Mar-Apr	1,718,463	31,194	4,257	53,354	35,451	88,805
	May-Jun	1,654,663	994	760	40,037	1,754	41,791
	Jul-Aug	1,695,006	1,470	1,470	44,395	2,940	47,335

(CONTINUED)

Table 9. (con't).

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
FLORIDA MARINE RESEARCH INSTITUTE

14:42 Tuesday, August 20, 1996 244

1982-95 MRFSS Bagre marinus NEW ESTIMATES FOR FLORIDA
BY COAST, YEAR, AND TWO-MONTH WAVE

Coast: ATLANTIC

YEAR	WAVE OF DATA	Trips	NUMBER OF	ESTIMATED	ESTIMATED	ESTIMATED	LANDINGS	TOTAL CATCH
			TRIPS IN	FISH CLAIMED	FISH HARVESTED	FISH RELEASED		
			AREA FISHED	Type A	Type B1	Type B2		
94	Sep-Oct	1,981,761	3,606	0	49,041	3,606	52,647	
	Nov-Dec	1,743,254	8,996	0	24,812	8,996	33,807	
	Annual	10,205,345	47,227	8,904	231,143	56,131	287,273	
95	WAVE OF DATA							
	Jan-Feb	1,277,566	5,637	7,739	11,072	13,376	24,447	
	Mar-Apr	1,730,093	13,696	11,112	97,278	24,808	122,086	
	May-Jun	1,785,451	1,097	0	27,709	1,097	28,807	
	Jul-Aug	1,980,354	1,588	7,558	69,094	9,146	78,240	
	Sep-Oct	1,642,922	4,847	968	33,463	5,815	39,278	
	Nov-Dec	927,939	2,770	0	16,706	2,770	19,476	
	Annual	9,344,325	29,635	27,377	255,322	57,012	312,334	

Table 9. (con't).

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
FLORIDA MARINE RESEARCH INSTITUTE

14:42 Tuesday, August 20, 1996 245

1982-95 MRFSS Bagre marinus NEW ESTIMATES FOR FLORIDA
BY COAST, YEAR, AND TWO-MONTH WAVE

Coast: GULF

Bagre marinus		NUMBER OF TRIPS IN AREA FISHED	ESTIMATED FISH CLAIMED	ESTIMATED FISH HARVESTED	ESTIMATED FISH RELEASED	LANDINGS	TOTAL CATCH
YEAR	WAVE OF DATA	Trips	Type A	Type B1	Type B2	Type A+B1	Type A+B1+B2
82	Jan-Feb	281,801	0	0	7,416	0	7,416
	Mar-Apr	1,511,210	15,012	2,650	279,696	17,662	297,358
	May-Jun	1,310,949	13,950	14,023	313,301	27,973	341,274
	Jul-Aug	2,228,293	46,449	12,610	311,160	59,058	370,219
	Sep-Oct	989,282	1,192	23,560	38,747	24,752	63,499
	Nov-Dec	353,185	0	0	16,752	0	16,752
	Annual	6,674,720	76,603	52,842	967,072	129,445	1,096,517
83	WAVE OF DATA						
	Jan-Feb	339,571	0	0	28,298	0	28,298
	Mar-Apr	1,288,293	31,127	0	175,222	31,127	206,349
	May-Jun	1,782,626	40,771	26,238	429,174	67,009	496,183
	Jul-Aug	3,714,025	48,046	0	347,870	48,046	395,916
	Sep-Oct	1,928,154	8,266	0	301,251	8,266	309,517
	Nov-Dec	848,554	0	0	73,109	0	73,109
84	WAVE OF DATA						
	Jan-Feb	25,588	0	0	1,121	0	1,121
	Mar-Apr	532,374	17,462	0	10,449	17,462	27,911
	May-Jun	2,829,315	112,566	82,387	420,698	194,953	615,651
	Jul-Aug	3,135,945	49,617	0	305,209	49,617	354,827
	Sep-Oct	3,158,544	3,508	107,997	581,344	111,506	692,850
	Nov-Dec	392,895	0	0	15,356	0	15,356
85	WAVE OF DATA						
	Jan-Feb	489,531	0	33,076	178,613	33,076	211,689
	Mar-Apr	2,240,359	7,806	72,685	47,465	80,491	127,956
	May-Jun	1,414,930	12,603	0	227,920	12,603	240,522
	Jul-Aug	2,211,445	0	61,395	385,961	61,395	447,356
	Sep-Oct	1,488,287	22,876	39,089	488,351	61,965	550,316
	Nov-Dec	548,560	14,345	7,910	51,920	22,255	74,175

(CONTINUED)

TABLE 9. (con't.).

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
FLORIDA MARINE RESEARCH INSTITUTE

14:42 Tuesday, August 20, 1996 246

1982-95 MRFSS Bagre marinus NEW ESTIMATES FOR FLORIDA
BY COAST, YEAR, AND TWO-MONTH WAVE

Coast: GULF

YEAR	Bagre marinus	NUMBER OF TRIPS IN AREA FISHED	ESTIMATED FISH CLAIMED	ESTIMATED FISH HARVESTED	ESTIMATED FISH RELEASED	LANDINGS	TOTAL CATCH
			Trips	Type A	Type B1		
			Type A+B1	Type A+B1+B2			
85	Annual	8,393,114	57,629	214,155	1,380,229	271,785	1,652,014
86	WAVE OF DATA						
	Jan-Feb	1,057,465	3,675	0	42,419	3,675	46,095
	Mar-Apr	1,965,633	1,287	17,722	62,679	19,009	81,688
	May-Jun	2,470,902	5,223	7,108	242,958	12,332	255,289
	Jul-Aug	1,178,106	11,780	0	0	11,780	11,780
	Sep-Oct	2,914,504	80,569	0	0	80,569	80,569
	Nov-Dec	466,242	988	0	0	988	988
87	Annual	10,052,852	103,522	24,830	348,056	128,352	476,409
	WAVE OF DATA						
	Jan-Feb	1,193,608	2,785	53,652	170,997	56,437	227,434
	Mar-Apr	1,668,293	11,311	0	61,965	11,311	73,276
	May-Jun	1,287,042	5,320	2,448	158,881	7,768	166,650
	Jul-Aug	1,789,982	6,710	13,032	160,064	19,742	179,805
	Sep-Oct	1,691,858	1,175	11,512	151,988	12,687	164,676
88	Nov-Dec	969,876	0	0	35,570	0	35,570
	Annual	8,600,660	27,301	80,644	739,465	107,945	847,409
	WAVE OF DATA						
	Jan-Feb	1,157,717	0	0	29,151	0	29,151
	Mar-Apr	1,409,596	6,542	1,717	44,165	8,259	52,424
	May-Jun	2,680,804	33,726	3,146	490,475	36,871	527,347
	Jul-Aug	3,097,390	23,745	47,589	862,284	71,334	933,618
89	Sep-Oct	2,634,984	54,379	30,174	698,817	84,554	783,371
	Nov-Dec	2,088,844	3,417	7,639	130,181	11,055	141,237
	Annual	13,069,335	121,809	90,265	2,255,074	212,074	2,467,148
	WAVE OF DATA						
	Jan-Feb	2,614,322	56,496	0	53,561	56,496	110,058
	Mar-Apr	1,602,818	42,276	0	91,536	42,276	133,811
	May-Jun	1,956,521	25,620	37,610	509,644	63,229	572,873
	Jul-Aug	1,563,445	20,447	15,875	295,647	36,322	331,968

(CONTINUED)

Table 9. (con't).

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
FLORIDA MARINE RESEARCH INSTITUTE

14:42 Tuesday, August 20, 1996 247

1982-95 MRFSS Bagre marinus NEW ESTIMATES FOR FLORIDA
BY COAST, YEAR, AND TWO-MONTH WAVE

Coast: GULF

Bagre marinus		NUMBER OF TRIPS IN AREA FISHED	ESTIMATED FISH CLAIMED	ESTIMATED FISH HARVESTED	ESTIMATED FISH RELEASED	LANDINGS	TOTAL CATCH
YEAR	WAVE OF DATA	Trips	Type A	Type B1	Type B2	Type A+B1	Type A+B1+B2
89	Sep-Oct	1,588,193	12,465	10,462	311,322	22,927	334,249
	Nov-Dec	1,320,475	9,309	2,213	131,181	11,523	142,703
	Annual	10,645,774	166,612	66,161	1,392,891	232,773	1,625,663
90	WAVE OF DATA						
	Jan-Feb	1,644,368	70,634	24,456	262,938	95,090	358,027
	Mar-Apr	1,509,583	30,329	2,642	312,552	32,971	345,523
	May-Jun	1,794,975	23,911	15,369	388,509	39,280	427,789
	Jul-Aug	1,959,204	12,548	21,210	300,083	33,758	333,842
	Sep-Oct	709,180	2,379	4,936	199,247	7,314	206,561
	Nov-Dec	1,270,750	4,530	0	126,416	4,530	130,947
	Annual	8,888,060	144,331	68,613	1,589,745	212,944	1,802,689
91	WAVE OF DATA						
	Jan-Feb	772,907	3,691	0	47,359	3,691	51,051
	Mar-Apr	2,024,858	2,212	7,795	196,751	10,007	206,758
	May-Jun	1,694,086	9,853	7,957	447,484	17,810	465,293
	Jul-Aug	3,562,649	8,043	52,858	476,748	60,901	537,648
	Sep-Oct	1,716,376	12,055	9,270	251,758	21,326	273,084
	Nov-Dec	641,226	1,348	0	28,835	1,348	30,182
	Annual	10,412,102	37,202	77,880	1,448,934	115,082	1,564,016
92	WAVE OF DATA						
	Jan-Feb	742,612	0	1,347	27,643	1,347	28,990
	Mar-Apr	2,035,141	15,494	5,203	236,208	20,697	256,905
	May-Jun	2,416,398	56,203	4,791	363,216	60,995	424,210
	Jul-Aug	2,879,032	25,019	12,999	542,541	38,018	580,559
	Sep-Oct	2,164,928	19,097	0	270,891	19,097	289,988
	Nov-Dec	2,076,578	2,460	1,677	133,310	4,137	137,447
	Annual	12,314,691	118,273	26,017	1,573,808	144,290	1,718,099
93	WAVE OF DATA						
	Jan-Feb	1,694,076	45,282	5,829	83,559	51,112	134,670
	Mar-Apr	1,873,617	5,665	0	144,053	5,665	149,718

(CONTINUED)

Table 9. (con't).

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
FLORIDA MARINE RESEARCH INSTITUTE

14:42 Tuesday, August 20, 1996 248

1982-95 MRFSS *Bagre marinus* NEW ESTIMATES FOR FLORIDA
BY COAST, YEAR, AND TWO-MONTH WAVE

Coast: GULF

Bagre marinus		NUMBER OF TRIPS IN AREA FISHED	ESTIMATED FISH CLAIMED	ESTIMATED FISH HARVESTED	ESTIMATED FISH RELEASED	LANDINGS	TOTAL CATCH
							Type A+B1+B2
YEAR	WAVE OF DATA						
93	May-Jun	2,183,317	29,242	6,008	404,667	35,251	439,918
	Jul-Aug	2,571,747	12,960	2,346	243,536	15,306	258,843
	Sep-Oct	2,260,767	12,287	6,363	259,702	18,650	278,353
	Nov-Dec	1,553,749	4,504	14,124	84,325	18,628	102,953
	Annual	12,137,273	109,941	34,671	1,219,843	144,612	1,364,455
94	WAVE OF DATA						
	Jan-Feb	1,102,816	3,207	0	47,550	3,207	50,758
	Mar-Apr	2,102,217	30,066	5,060	174,405	35,126	209,531
	May-Jun	2,384,328	29,185	900	414,983	30,085	445,068
	Jul-Aug	2,421,029	8,906	9,622	274,547	18,528	293,074
	Sep-Oct	2,497,639	14,159	17,839	396,816	31,998	428,815
	Nov-Dec	1,370,917	7,481	0	106,514	7,481	113,994
95	WAVE OF DATA						
	Jan-Feb	1,370,847	0	4,731	66,346	4,731	71,078
	Mar-Apr	2,139,466	11,008	2,855	196,298	13,864	210,161
	May-Jun	2,691,888	9,712	2,229	401,947	11,941	413,888
	Jul-Aug	1,780,530	26,503	617	359,836	27,120	386,956
	Sep-Oct	1,838,549	37,446	7,219	348,520	44,665	393,186
	Nov-Dec	1,371,080	0	0	87,156	0	87,156
	Annual	11,192,360	84,670	17,652	1,460,103	102,322	1,562,425

from G:\DATA\SPECIES\CATFISH\GC8295.LST

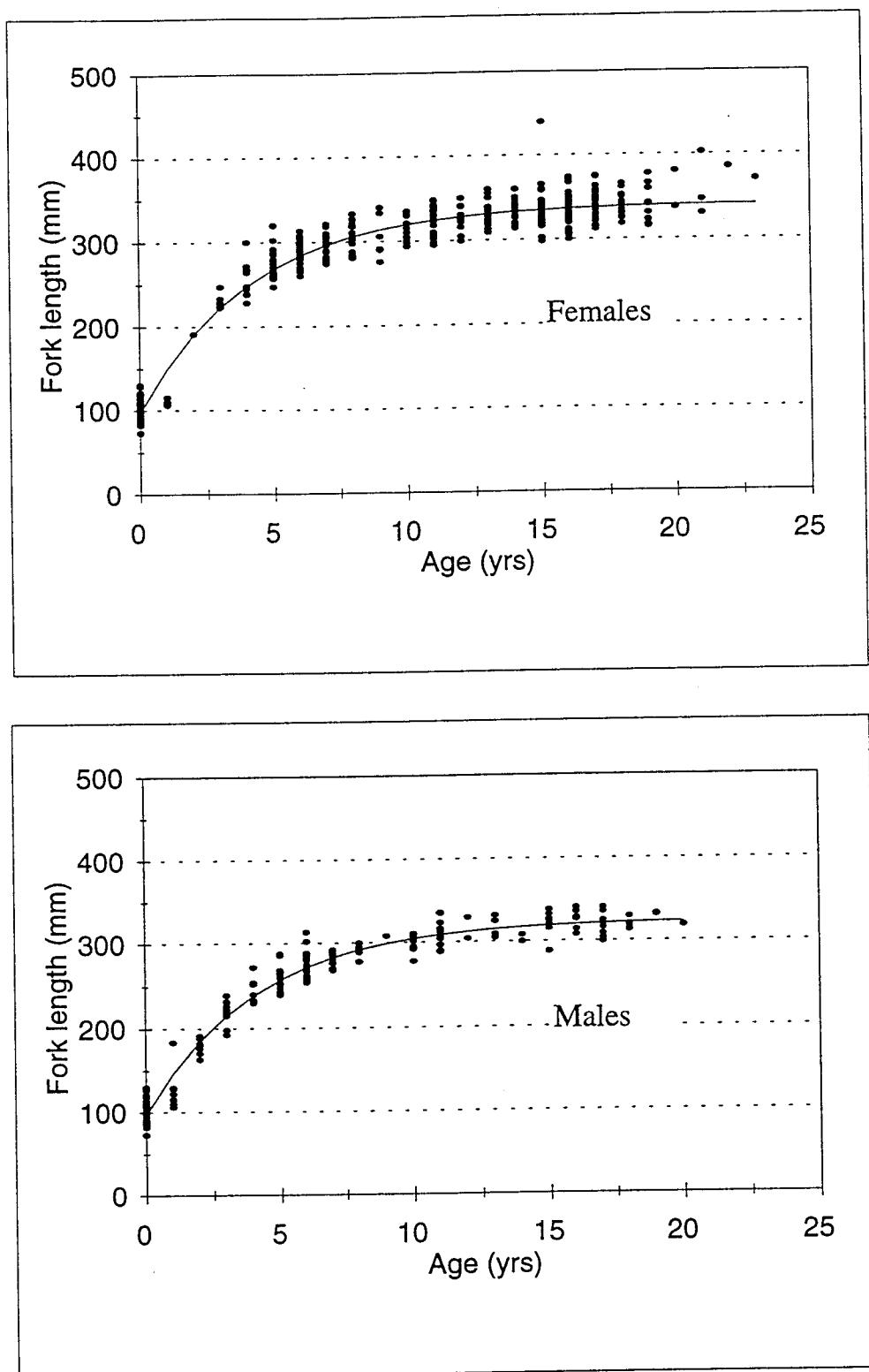


Figure 1. Length-at-age data for hardhead catfish fitted with a von Bertalanffy growth model.

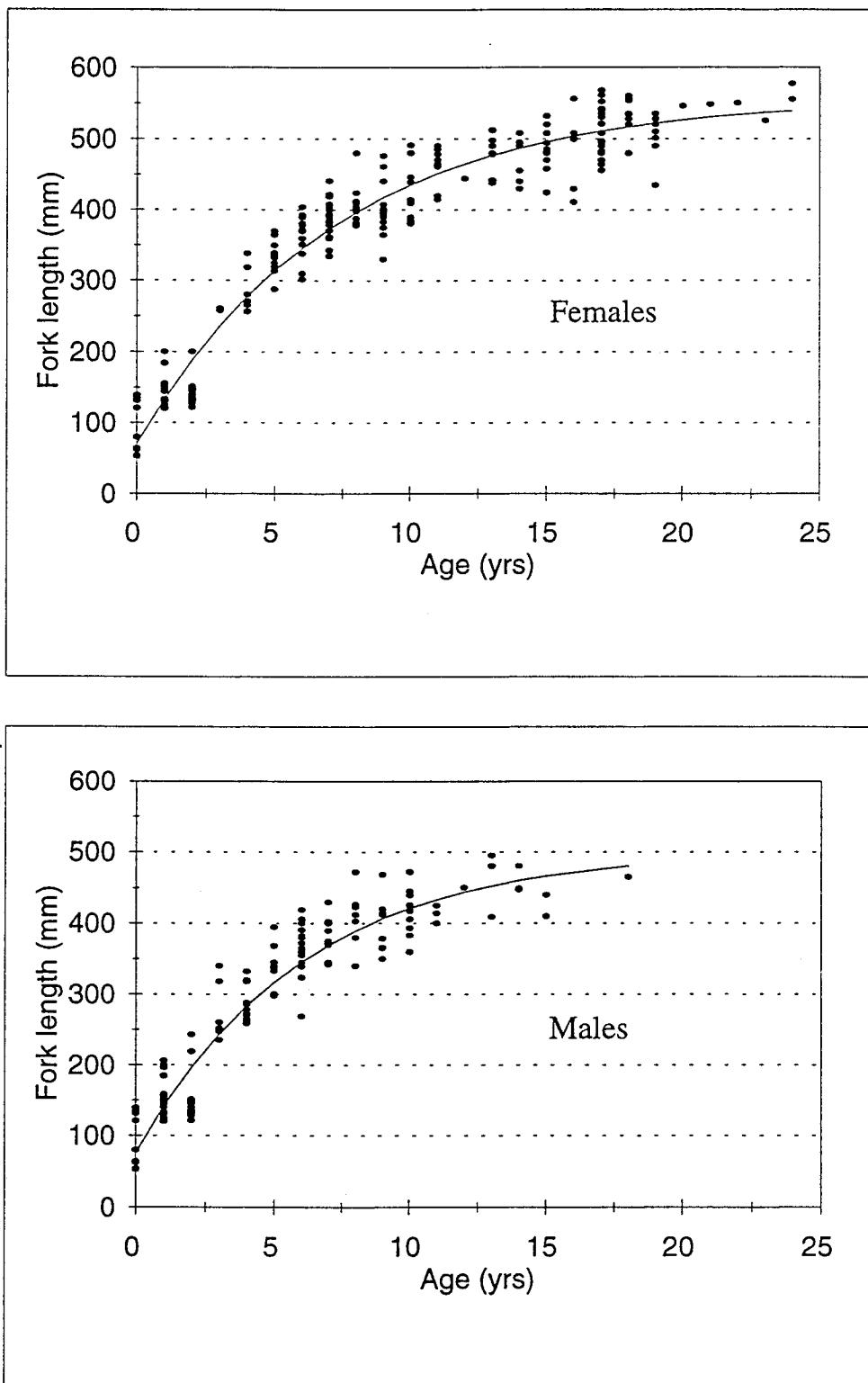
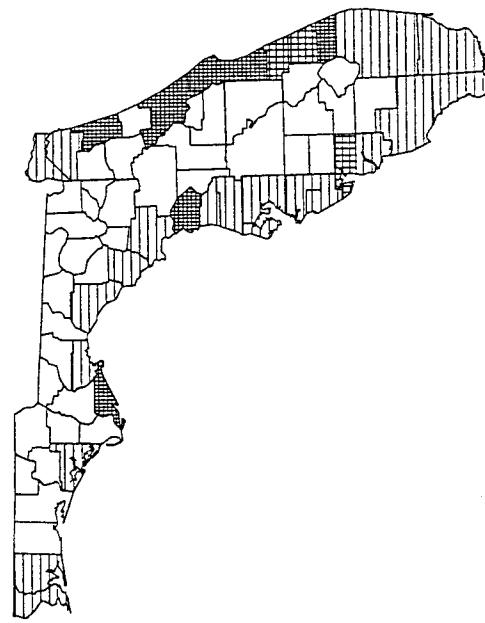


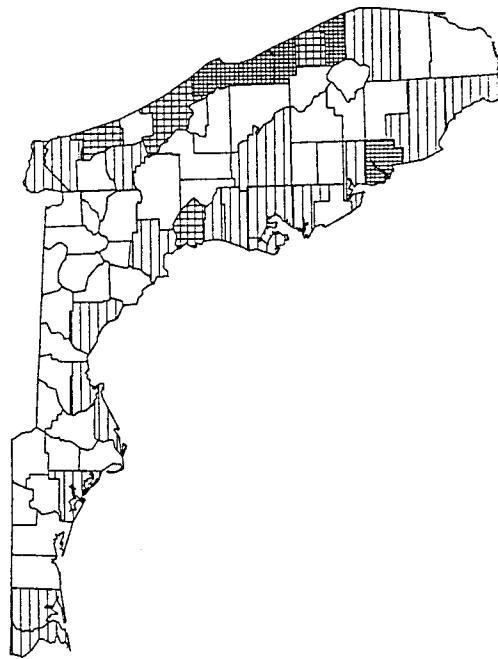
Figure 2. Length-at-age data for gafftopsail catfish fitted with a von Bertalanffy growth model.

FIGURE 3. Geographical distribution of commercially landed catfish in Florida for 1994 and 1995. Legend: solid black - more than 50,000 pounds; fine crosshatch - 10,001-50,000 pounds; coarse crosshatch - 5,001 - 10,000 pounds; horizontal lines - 1 - 5,000 pounds; blank - no reported landings

1994



1995



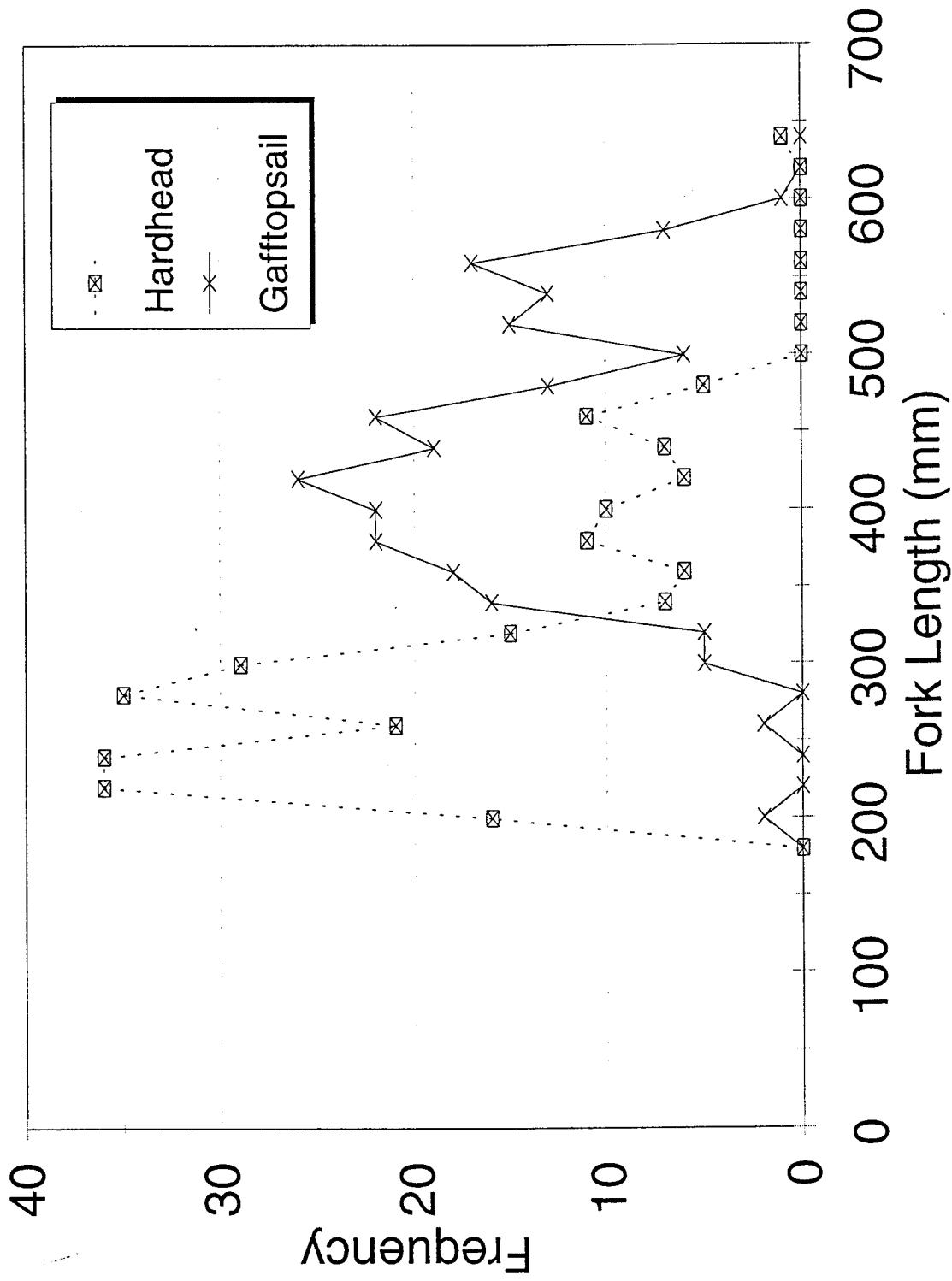
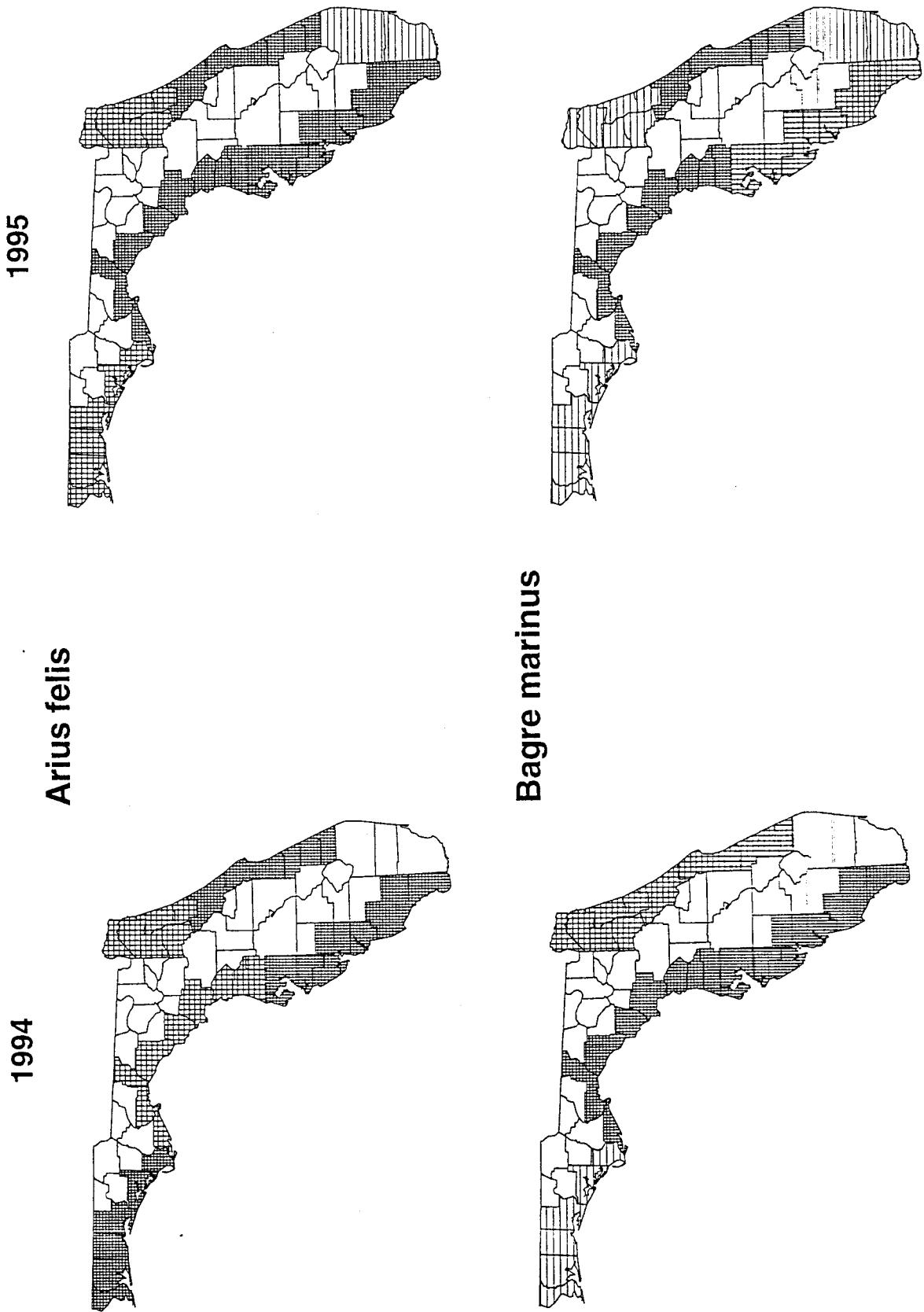


Figure 4. Fork-length frequencies for samples of the commercial catfish landings made during 1991-1995 on both coasts of Florida.
from G:\DATA\SPECIES\CATFISH\A_FELIS.WB1:Comm_II

FIGURE 5. Geographical distribution of recreationally landed catfish in Florida for 1994 and 1995. Legend: solid black - more than 50,000 pounds; fine crosshatch - 10,001-50,000 pounds; coarse crosshatch - 5,001 - 10,000 pounds; horizontal lines - 1 - 5,000 pounds; blank - no reported landings



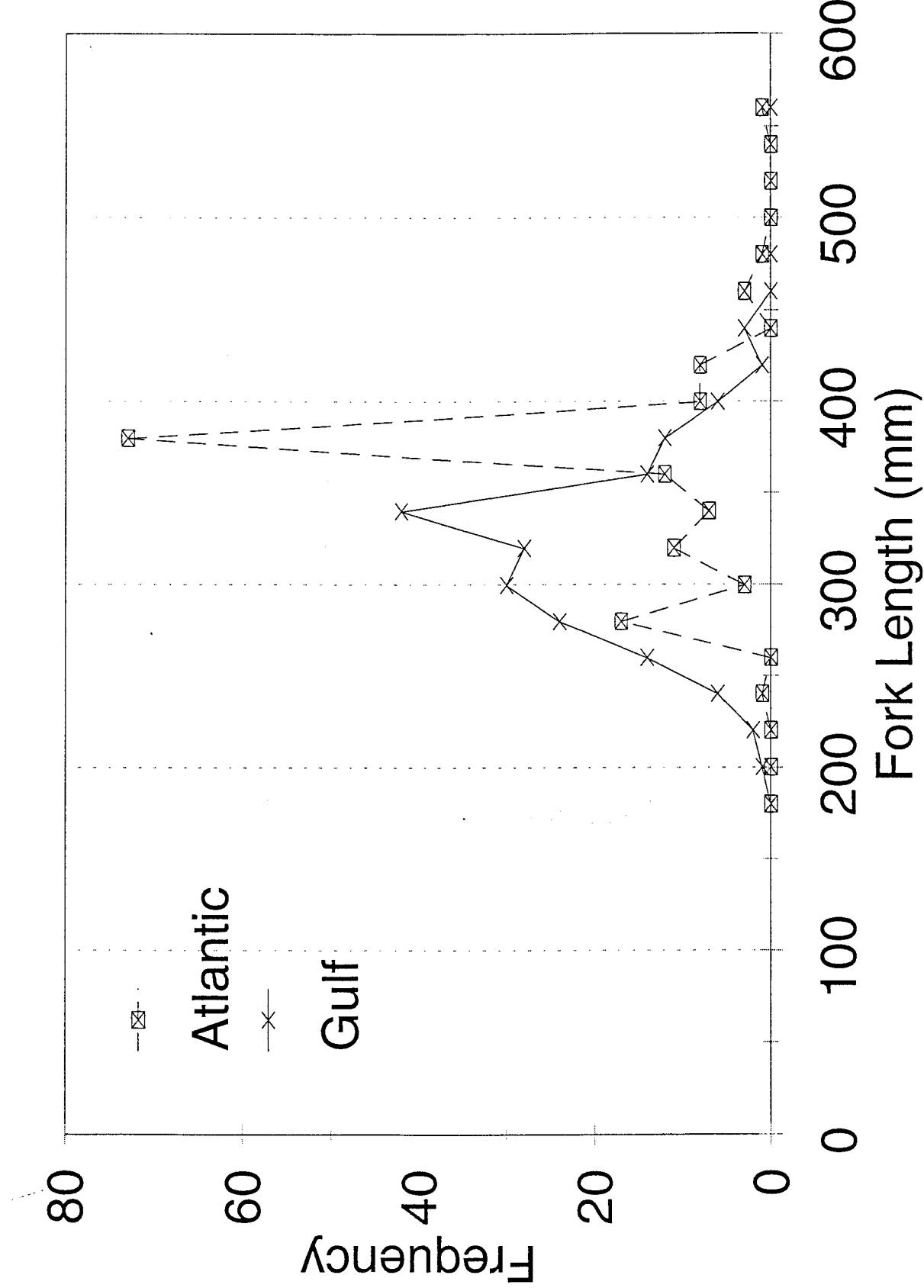


Figure 6. Fork-length frequencies for 1993-1995 MRFSS samples of hardhead catfish from the Atlantic and Gulf coasts of Florida.

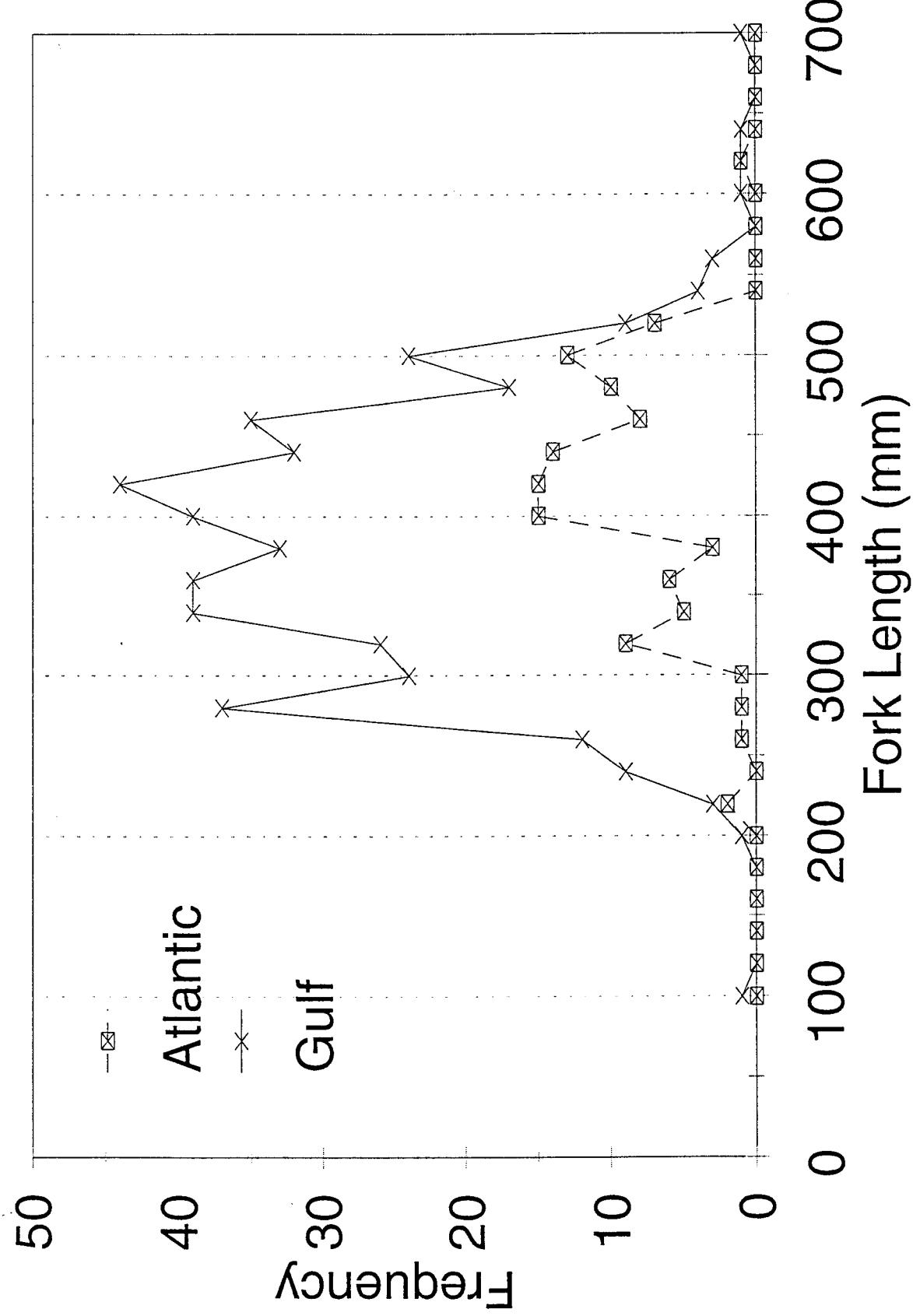


Figure 7. Fork-length frequencies for 1986-1995 MRFSS samples of gafftopsail catfish from the Atlantic and Gulf coasts of Florida.

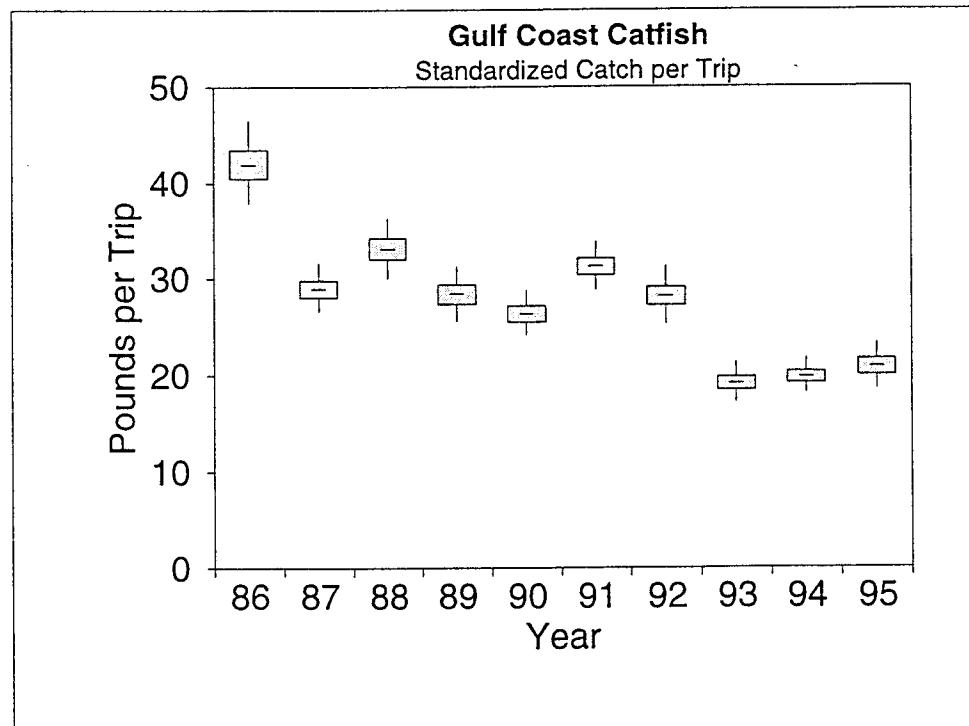
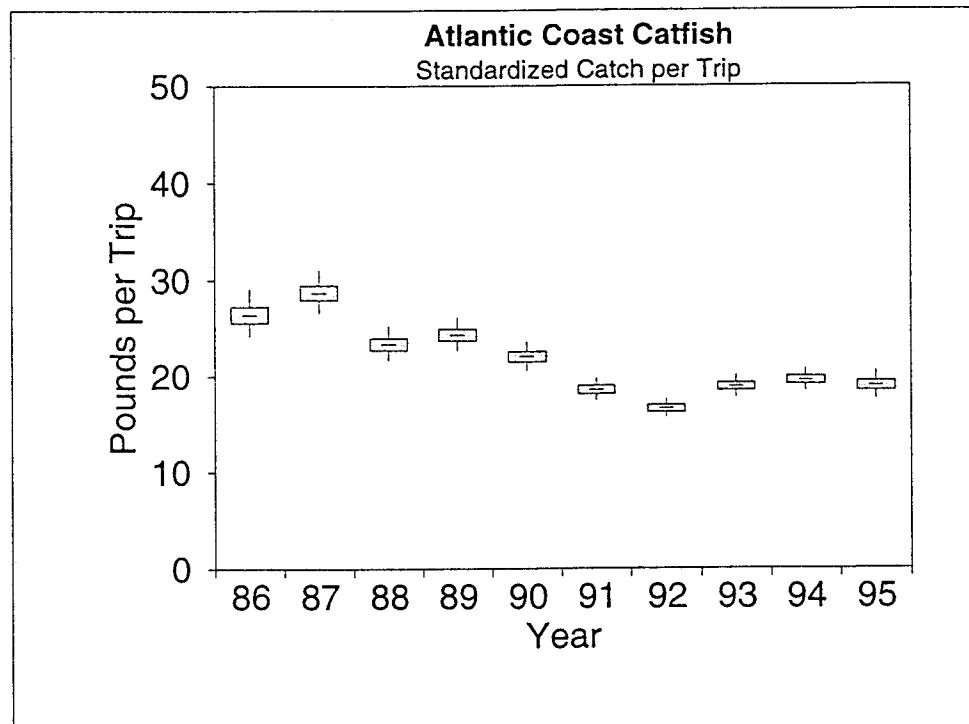


Figure 8. Standardized commercial catch rate of sea catfish (hardhead and gafftopsail combined) in Florida.

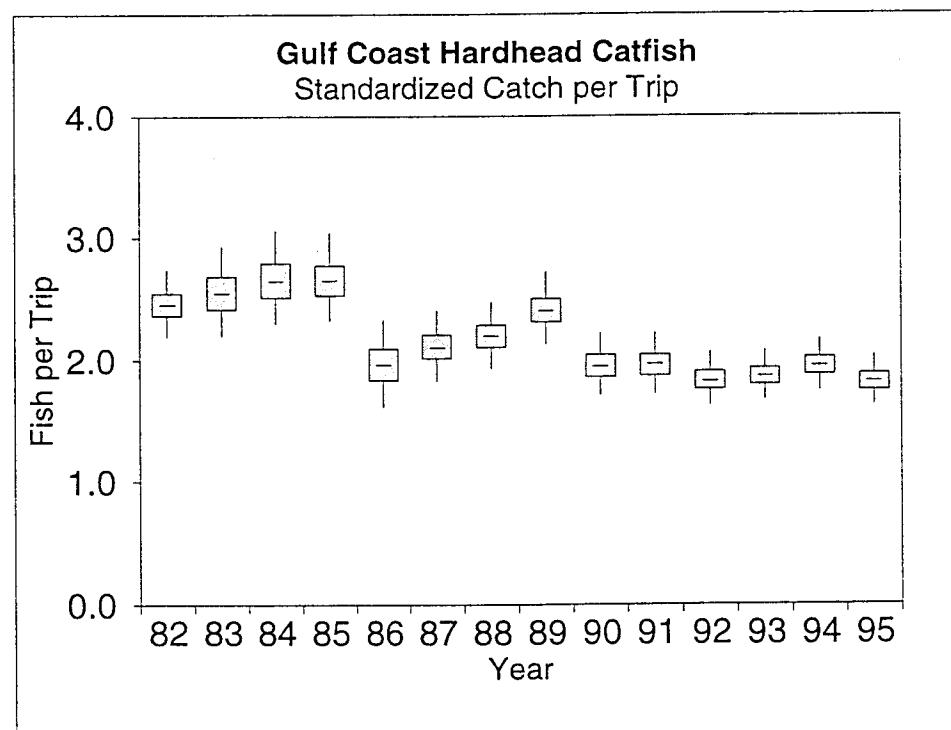
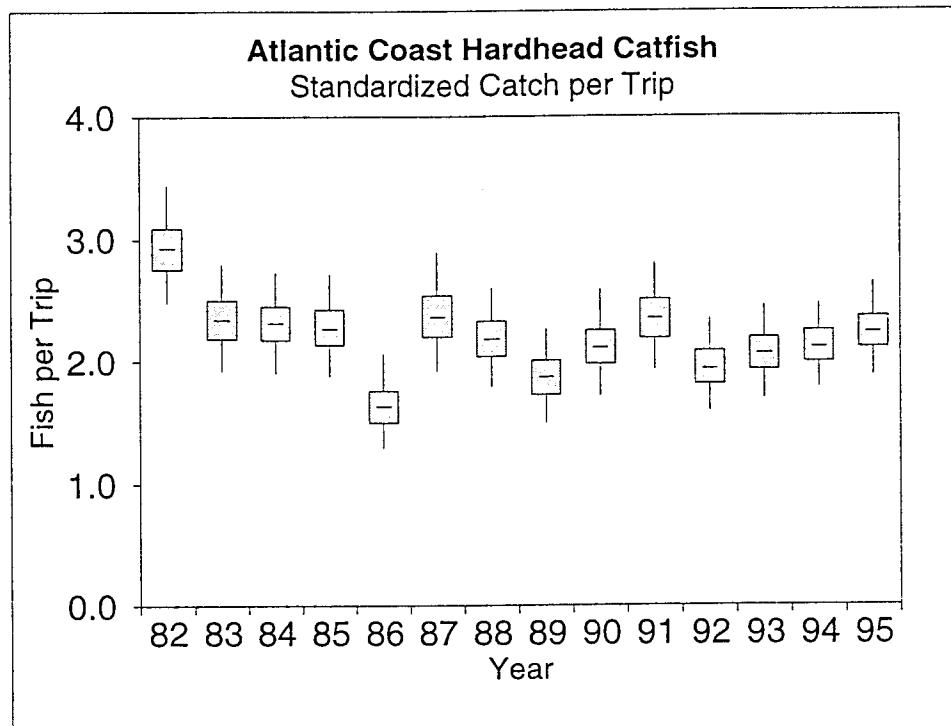


Figure 9a. Standardized recreational catch rate for hardhead catfish.

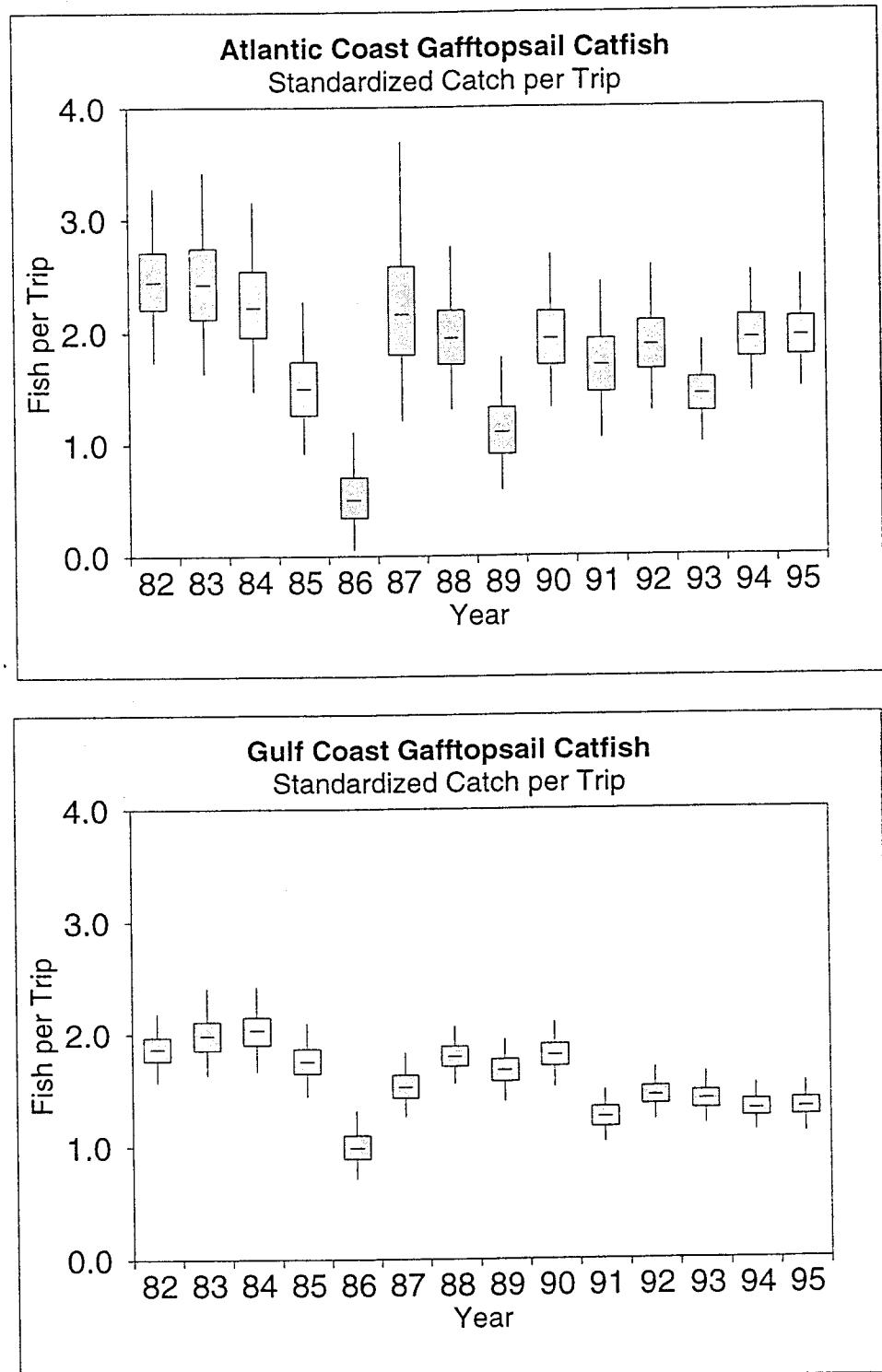


Figure 9b. Standardized recreational catch rate for gafftopsail catfish.

Tampa Bay Juvenile Hardhead Catfish

Standardized Catch per Sample

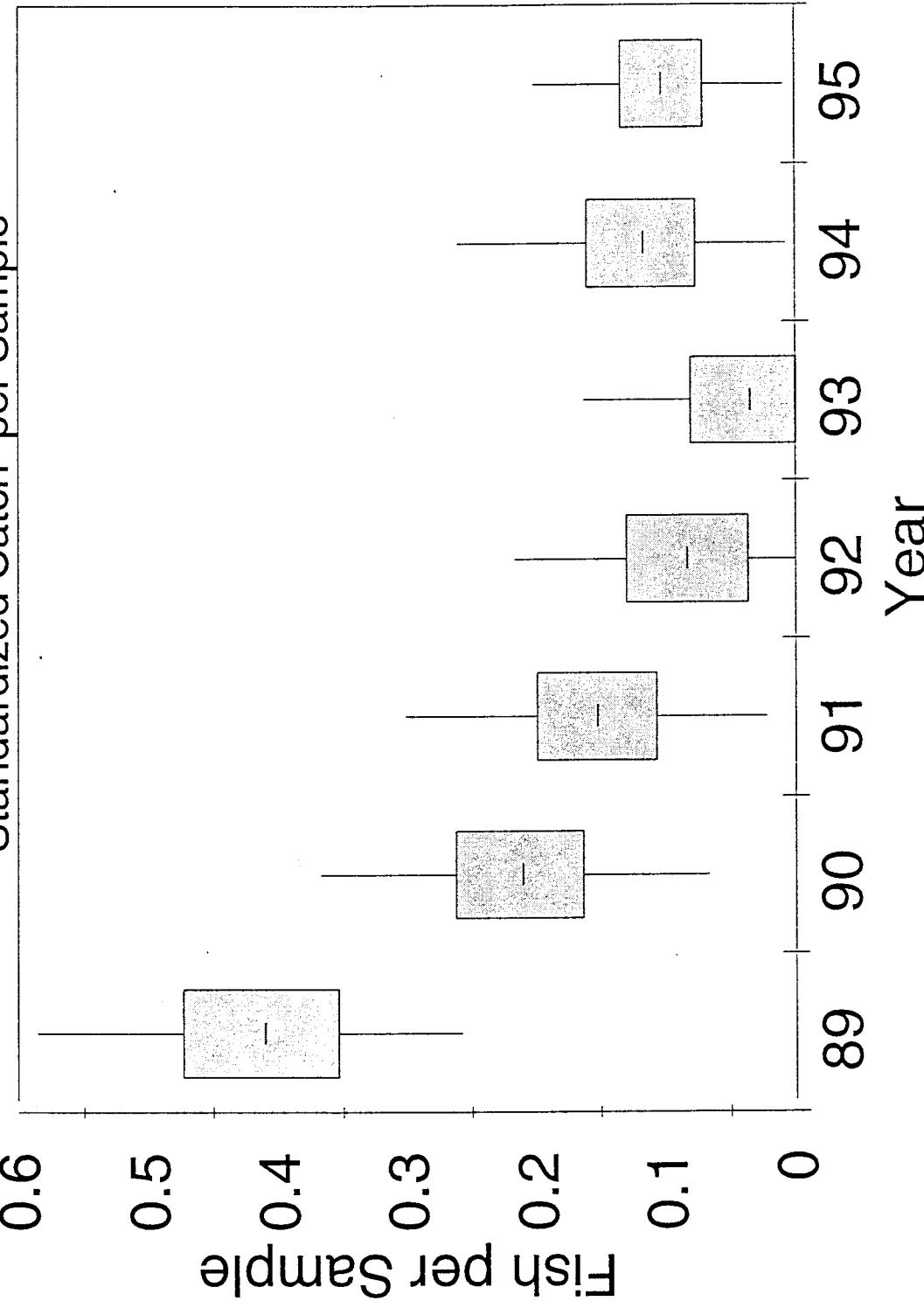


Figure 10. Standardized catch rate for juvenile hardhead catfish (<150 mm SL) in Tampa Bay. Data from Fisheries Independent Monitoring Project.

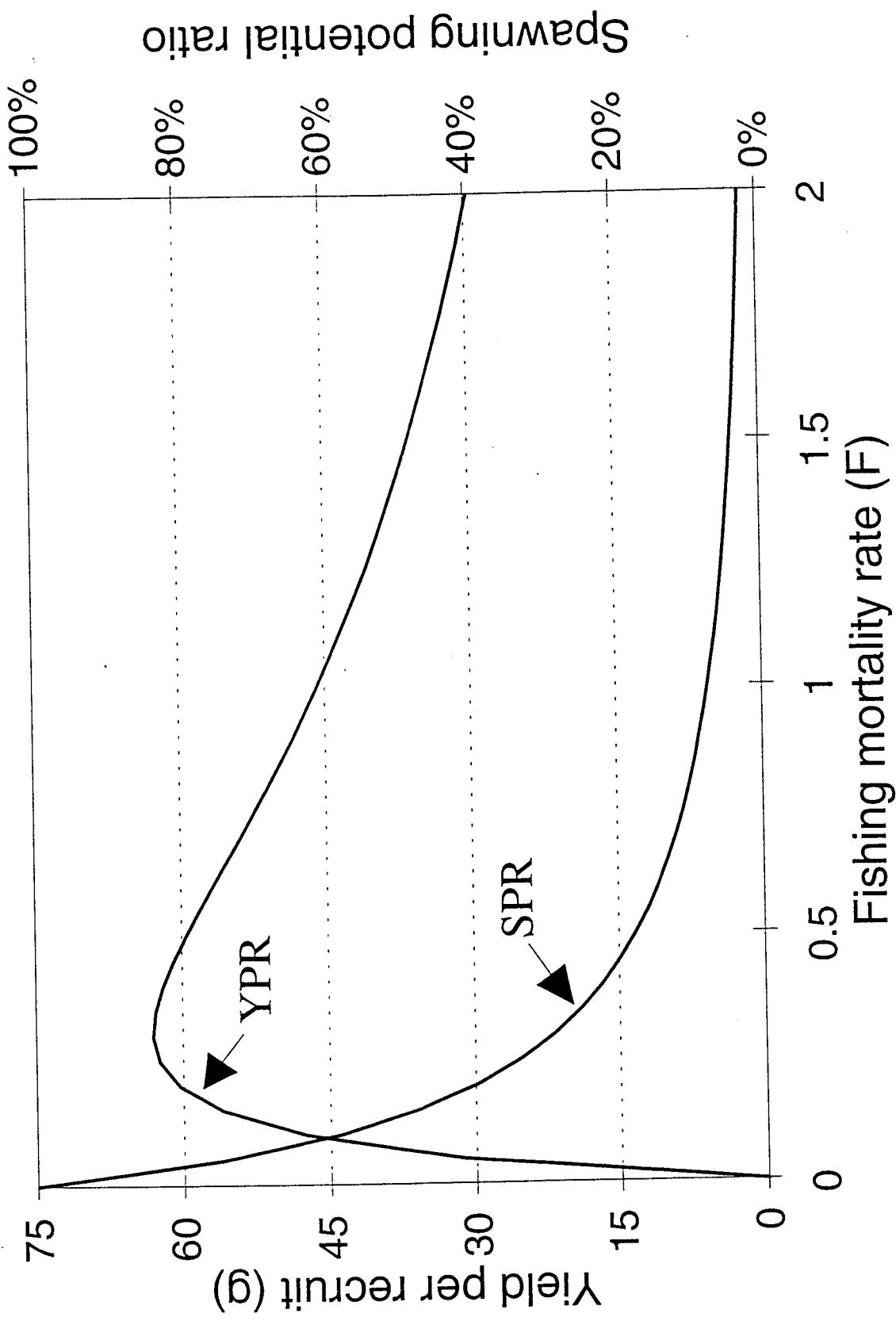


Figure 11. Yield-per-recruit and spawning potential ratio relationships for female hardhead catfish from the Gulf coast of Florida.

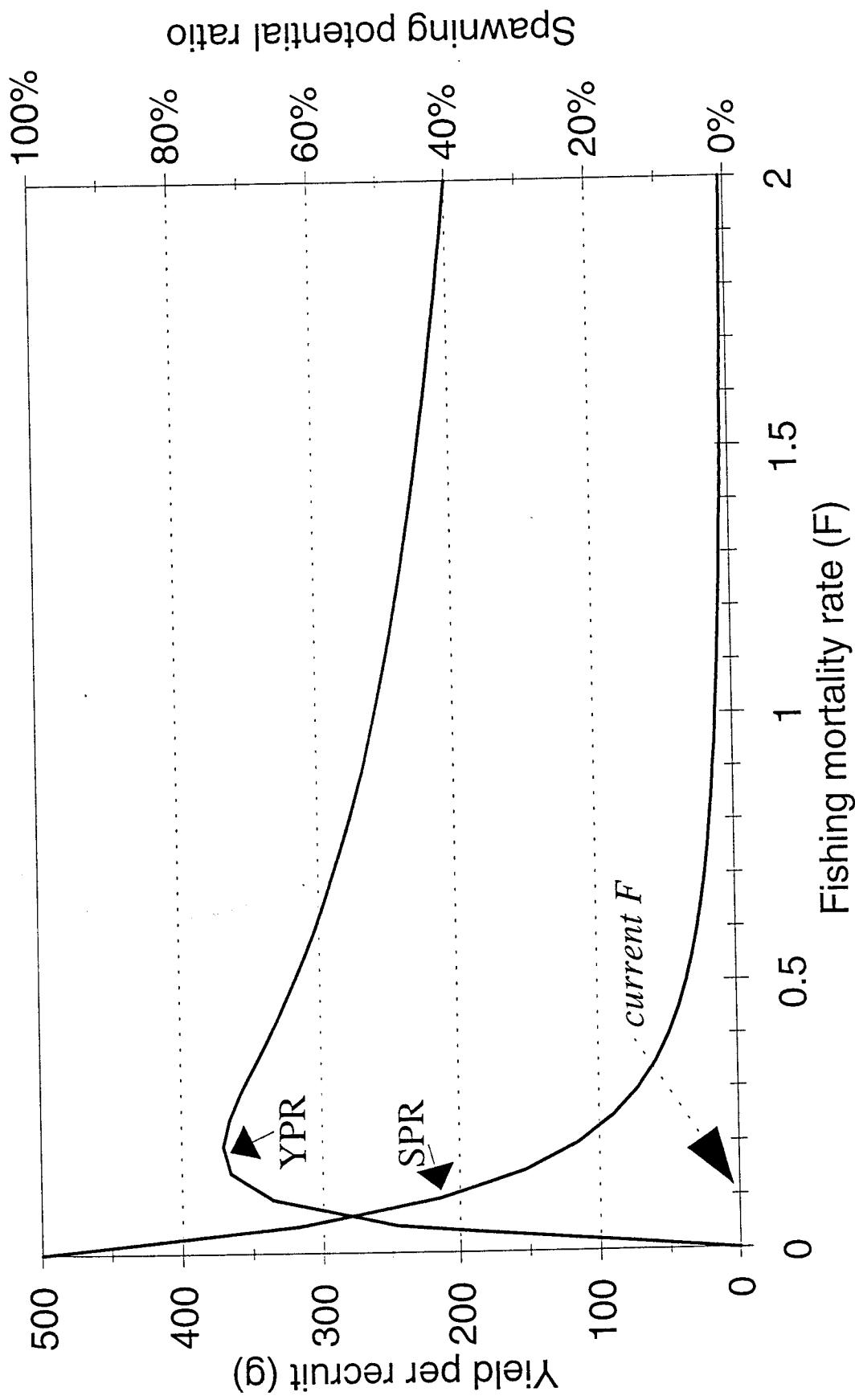


Figure 12. Yield-per-recruit and spawning potential ratio relationships for female gafftopsail catfish from the Gulf coast of Florida.

